American Fruit Grower

MAY · 1952

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PINEAPPLE (treatment of beds)
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POTATO
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MAY 1952
VOL. 72 No. 5

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The Royal Ann cherries featured on our cover were photographed in Nick Tikvica and Sons orchard, Sunnyvale, Calif. Seth Lewelling introduced the Royal Ann cherry to the Pacific Coast when he brought fruit trees across the continent in a covered wagon in 1851. Photo by Dick Ferguson.

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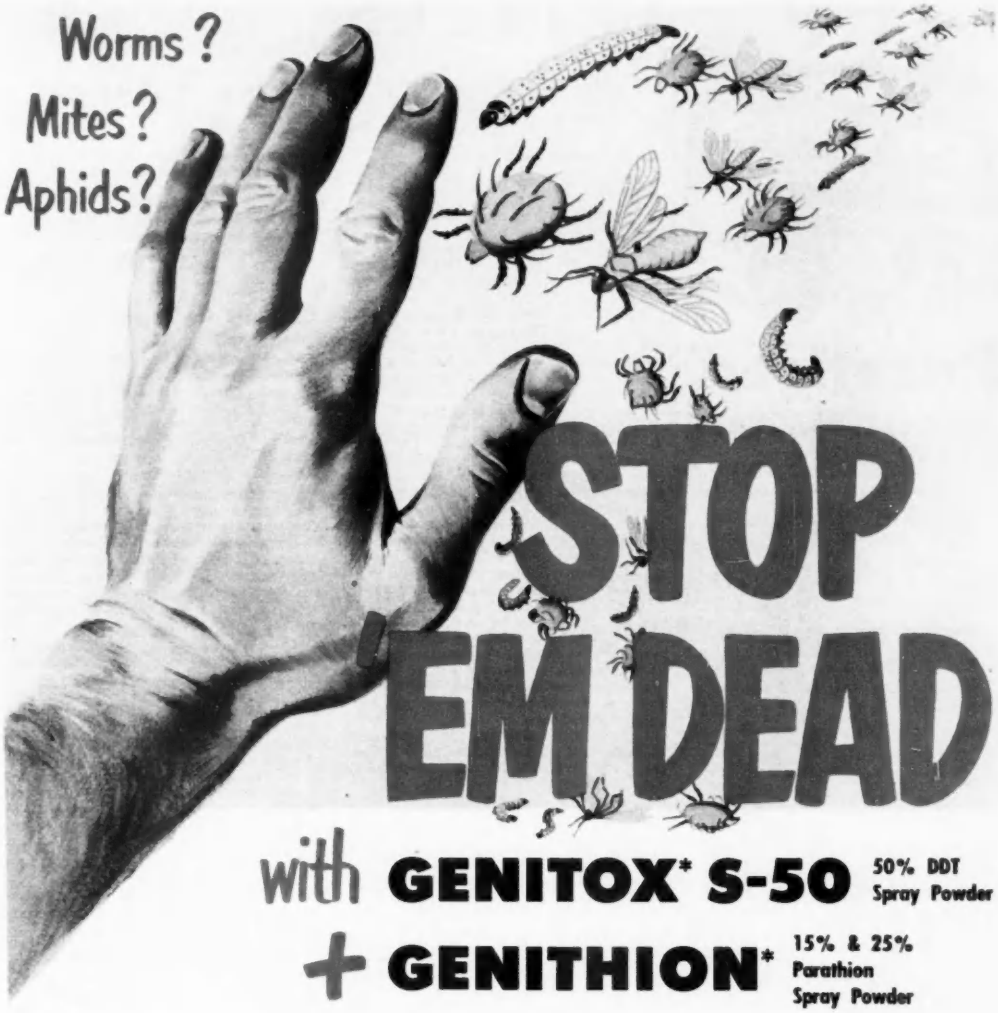

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LETTERS

to the Editor

Cull Apples and the Family-Sized Orchard

Dear Editor:

Our 95-acre fruit farm is located near Lake Michigan on a main road and our packing shed is an old barn close to the highway. We are in an industrial area where there are large families and incomes are not high.

As our trees came into bearing, more and more people stopped in to watch us grade and to buy apples. Before long it took at least one person to wait on these customers during work days, while on Saturday afternoons and Sundays we often needed eight or 10 salespeople. The sad part is, however, that our sales have been largely built up by second grade apples. There are times in the fall when we will sell 10 bushels of seconds to one of our carefully graded and packed No. 1 and Fancy apples.

There is a lot of resistance to our prices for the better fruit even though we charge less than the stores and stands that sell our apples. We cannot afford to antagonize these outlets by cutting prices too much.

We are up against an organized movement to keep the poorer grades of fruit off the market. A director of one such group told my partner's wife that it was a disgrace that we should be famous for our sales of cull apples. I told her not to feel too badly as it was the sales of these despised apples that saved us when we suffered serious hail damage.

We've tried to grow good fruit and have used the best equipment and spray schedules. I think nearly all orchard practice in our area is based on the idea that the only profitable apples are No. 1 and everything should be sacrificed to produce them.

I was told, "Don't keep on being known for cull apples. You should grow fewer apples on each tree and those the very best." However, of three fine orchards in our area, one is being sold under foreclosure and two will have great difficulty financing themselves.

It has been my experience that our moderately pruned trees have given more consistent yields than those we have trimmed severely in an all-out effort to get size and color. We have many cold foggy days at blossom time and an occasional late spring frost. I've wondered if we do not get as many No. 1 fruits as those growers who use severe pruning systems, even if we do grow quite a percentage of small and poorly colored apples.

Two years out of the past three the large markets in Chicago and Milwaukee would not net us as much for our best fruit as we could get for cider stock at home. If it cost 85 cents a basket to grow our apples; grading, packing, and trucking with commission brought the cost up to 90 cents more in these cities. We sent trial truck loads of McIntosh and Jonathans to Chicago and they sold for $1.50 and $1.35 a bushel. Our seconds at $1.65 and $1.75 in old baskets and not packed were infinitely more profitable.

Luckily we've been able to sell everything either to local outlets or at the farm. We have a block of Jonathans and Red Delicious that are getting too high to pick the tops. Should we cut them back or let the high up apples fall and sell them as seconds?

What I have written may give a slightly different angle to the cull problem. I feel that under our complicated industrial set-up we cannot escape national planning. We cannot, also, long be without controls and aids in times of depression. About the best we can hope for is that under these controls we can have freedom to manage our family-sized enterprises and adjust ourselves as best we may to local problems of sales and production. W. E. T.

Culls and the Shipper

Dear Editor:

Your columns have carried varied comments by growers from all over on the cull problem. I flatter myself that a letter I wrote John Watson of the Virginia State Horticultural Society, and which he published in *Virginia Fruit*, brought on this storm. I sincerely hope it isn't merely a tempest in a teapot.

Since that time when I advocated the possibility of market agreements as a solution to the everlasting cull problem, many objections have been paraded before growers saying we can't "limit, regulate, legislate, coerce, etc." Some of these objections are founded on good sense and facts, but some of them I fear are based on "can't-ism."

No one has come up with anything we CAN do to solve this cull problem before it engulfs us all in bankruptcy. If we can hold our supply of FRESH consumption apples to the average 100-million-bushel demand we have today, and receive a fair (economically efficient) return for them, then we can seek "new worlds to conquer" in the way of creating new markets and new demand through advertising, etc. This year proves we can market good apples at good prices—when they are free of competitive culls and low-grade fruit.

When other businessmen call us fools, they're right, though not always for the same reasons. We're the kind of fools who exhaust our strength lugging a useless and worthless millstone while trying to recapture a "lost market" with good produce. We're the kind of fools who are forced to sell culls to transient truckers to compete with us on the markets because our fool neighbors will sell if we don't. The gingham dog and the calico cat! I, and all of us, can afford to absolutely destroy, if that becomes necessary, every cull we grow—if we can be sure our fancy packaged fruit will reach market unopposed by other growers' low-grade fruit and culls.

Aiton, Va. A. H. Apperson, Jr.

The two letters above represent opposite viewpoints, yet both seemingly are based on sound judgment. How can these points of view be made to work together; or is there no solution to the cull apple problem?—Ed.

Russet Apple

Dear Sir:

In different magazines, I have seen requests for the old Russet apple. We have three trees of this variety in our orchard. These apples have not been sprayed for some time, yet they show no signs of disease and the leaves are healthy and the trees bear heavily.

I will be glad to send anyone grafts of the Russet apple if postage is sent with the order for their shipment.

Pemberville, Ohio Mrs. H. E. Ward

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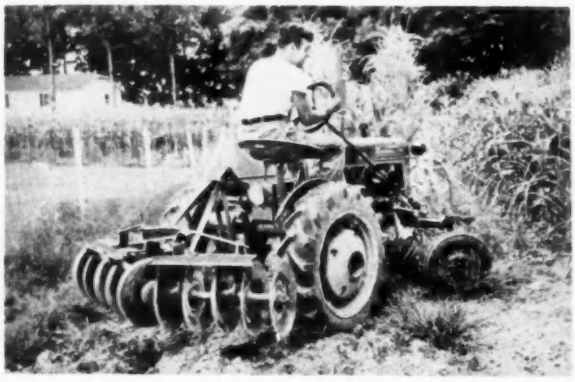

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IS THINNING WORTH THE TROUBLE?

Yes, say expert growers, and here is how they plan this important orchard job.

By R. T. MEISTER

THE housewife likes big fruit for eating or cooking. Canners want big apples and peaches. The emphasis today is on bigger airplanes, bigger guns, bigger buildings—and bigger fruit.

How to grow large apples and peaches is a problem for many growers who do not know how to thin quickly and efficiently. Though every grower agrees that thinning is worthwhile, many never get around to doing the job. It requires good management to find the time to thin during the busy and hurried days early in the season. Also, thinning requires extra help and is an item of expense when harvest returns are still a long time off.

Nevertheless, there are a number of ways to reduce the cost of thinning and to save time and still do an adequate job. Spray thinning of apples is one way; clubbing and pole thinning of peaches is another.

John Wyatt of Candor, N. C., has found that a 12-inch length of three-eighths-inch rubber spray hose, or an old fan belt with an eight-inch loop, attached to the end of a broom handle, does an effective job on peaches. "Thinning can be speeded up at least 10 times," he says.

One method of using the rubber hose is to strike the limb sharply about one and one-half feet from the end to jar off the peaches. The job is finished by hitting individual fruits to separate clusters.

With the fan-belt loop, a raking and sweeping motion is used against the fruit. It works especially well in separating clusters, by placing the loop over a peach and flipping it off. Gordon Saxton of Caldwell, Idaho, estimates the rubber loop saves him $50 an acre and cuts thinning time in half.

The large-sized peach in the right hand of Dr. W. W. Aldrich, former USDA pomologist, is from a tree thinned at blossomtime; that in his left hand from an unthinned tree.

Pole thinning is a popular cost-saving method of thinning peaches and apricots.

Frank Street of Henderson, Ky., uses a light branch or sprout about one inch in diameter at the base, narrowing down to one-half inch at the end and four to six feet long. To the end is attached a 15-inch length of discarded spray hose which extends for 12 inches over the end of the sprout. The hose is used to tap the limb to knock off fruit and to break up clusters. A good man can thin a tree in five minutes with the branch and hose that formerly took 45 minutes by hand.

Chemical thinning of apples by spraying is becoming an accepted practice (see "Chemical Fruit Thinning," page 26, February, 1952, AMERICAN FRUIT GROWER). Western growers generally prefer the dinitros while eastern growers like naphthaleneacetic acid. George Sisler of the Ox Team Orchards, Wenatchee, Wash., will use Elgetol on Delicious, Winesap, Jonathan, and Rome Beauty this season. The Jonathans will receive a second application two or three days after the first. It is interesting to note that Sisler will later supplement the spray thinning with hand thinning.

Grady Auvil of Orondo, Wash., will also use Elgetol, with 2 sprays

(*Continued on page* 45)

THE KEY TO SOIL FERTILITY

Humus—and lots of it—will cure many soil troubles

By R. E. STEPHENSON, *Oregon* State College

SOILS contain enough of the essential nutrient elements (nitrogen, phosphorus, potassium, sulfur, calcium, iron, magnesium, copper, zinc, manganese, boron, and perhaps molybdenum) for several good crops, if the crop were able to extract the nutrient from the soil. Those nutrients which the plant is able to extract and use are called available, while those that refuse to leave the soil and enter the plant are called unavailable.

It is not the total quantity of nutrients present in the soil that determines how much the plant can use, though a high total in the soil may be a favorable factor from the long-time point of view. Other things than the quantity present are of more immediate importance to the plant.

Plants differ not only in the amount of the various nutrients required for good growth, but they differ in the amount of root system, the development of the fine feeding roots to make soil contacts, and the depth to which the roots penetrate into the soil to extract nutrients.

Thus, walnuts fail to produce a crop because of boron deficiency where filberts thrive in the same soil. Strawberries are rather vigorous surface feeders, whereas raspberries require a deep soil where roots can penetrate and function.

Soil structure has been called the "key to soil fertility," because soil structure determines whether a profusion of roots can develop and send out root hairs that supply the absorbing surface for the root system. The ideal structure can be described as granular and spongelike. Such a soil holds moisture well, but is full of open channels to furnish good drainage, easy entrance of roots, and free interchange of air. This favorable structure is more likely to be found in the medium texture soils, loams, silt loams, and sandy loams.

Soils are only as deep as the roots penetrate and function, which may be from less than six feet to more than twice that depth for some plants. Walnuts fail in six feet or less of soil as the trees grow large, regardless of fertility, because the roots must have more depth for greater functioning volume. Many of the garden vegetables would do nicely on considerably less than six feet of good soil.

Soil reaction (whether acid, neutral, or alkaline) is a major chemical property influencing nutrient availability. The highest average availability of all the essential elements is found when the soil is near neutral. High acidity is unfavorable to most crops and predestines some crops to complete failure. High alkalinity, which is likely to mean black alkali, is disastrous to most crops.

Acidity occurs in humid climates and is due to lack of lime. Black alkali occurs in arid climates and is due to accumulation of salts, such as common table salt, which brings about changes that finally result in enough sodium hydroxide (a strong alkali) to stop most plants from growing. Soil acidity is easily corrected by liming, but black alkali is both difficult and expensive to treat.

The chemical combinations in which the essential elements are found in the soil influences their availability. Phosphates in combination with iron or aluminum are low in availability, whereas phosphates of calcium and phosphates of humus are much more available. Many of the nutrient elements are more available in humus combinations than when combined with clay.

Few things, therefore, contribute more to good nutrient availability than regular and adequate humus renewal. In good topsoil where there are more fine feeding roots than at any other depth, one-third or more of the total phosphorus, half to three-fourths the sulfur, all the nitrogen, and a considerable portion of all other major and minor elements are in organic combinations which are more readily liberated to a tree root or the feeding roots of any plant than are the rather inert mineral forms of these elements.

Mulching is an excellent way to renew humus

In areas of soil acidity humus prevents phosphates from reacting with iron and aluminum and thereby helps to keep them in a form that plants can use.

In areas of alkali soil, humus acts as a buffer to reduce the severity of the alkali and by improving soil structure helps to eliminate the alka-

(*Continued on page* 40)

ATTENTION! All The King's Men

Marketing is the No. 1 apple problem. Supplies must be balanced to fresh and processor outlets and real effort put behind selling. The secret of success is to join hands and work together.

By PORTER R. TAYLOR

FOR three consecutive years apple growers have experienced seasons which have been generally unprofitable. Without minimizing the need for producing the right variety and grade of apples, it should be clear that marketing is now the most important problem of the industry.

Production during the 11 seasons from 1940 to 1950 ranged from 134 million bushels in 1949 to only 67 million bushels in 1945. During eight of these 11 seasons, production was average or above. In each of these years fresh apple sales ranged from 75 to 80 million bushels, which appears to be the present capacity of the fresh market.

Much of the difference between production and fresh sales has naturally been absorbed through processing. If the same method of comparison is used, the volume processed varied from 22 to 39 million bushels, if production was average or above. In six of these seasons, the volume processed varied between 33 and 39 million bushels.

If these conclusions were applied to the 1951 crop of 113 million bushels, we might expect fresh sales of about 77 million bushels and processed volume of about 26 million bushels. At least that was the utilization in 1947, when production was the same amount.

During two of the last three seasons, 1949 and 1951, 10 million and 8.4 million bushels, respectively, have not been harvested or packed because the price at harvesttime was not attractive enough to indicate that the sale of the product would pay for the cost of harvesting and distribution of the fruit. Therefore, that portion of the production was a complete loss to the producer.

It is well known that the per capita consumption of fresh apples has been declining for the past three decades. By five-year periods from 1920-24 through 1945-49 the annual fresh consumption was as follows: 52.6, 46.6, 39.4, 30.4, 27.8, and 24.4 pounds. This is a decline of over 50 per cent in the 30-year period, and is a major factor in the apple marketing problem.

Now let us endeavor to determine what steps might be taken to correct the unsatisfactory conditions which have prevailed during the past three seasons, especially as to the net returns received by growers. If the fresh apple market has absorbed only 75 to 80 million bushels in any recent year when there has been an average crop, then why do we as an industry continue to offer the market more than that volume in fresh form?

If only one grower or marketer controlled the entire apple production, I am sure that he would take three important steps.

First, he would endeavor to enlarge the fresh sales outlet through advertising, merchandising promotion, and improved quality.

Second, he would offer on the fresh market only a volume approximately equal to its known capacity at profitable prices.

Third, he would move the balance of the crop through processing outlets.

Obviously, no one person has such control of the apple crop and so some other method would have to be used to achieve that purpose. One of these might be through reduction of production along the lines recommended by the recent resolution of the Michigan Horticultural Society that growers voluntarily remove 10 per cent of their trees so as to reduce the potential production.

A more logical approach would seem to be to develop a marketing program to place the better varieties and the more desirable grades and sizes on the market for fresh sales, endeavoring to include only those which it is believed can be sold at a profit to the producer.

This might be achieved through a regional co-operative, which would sell the fruit in the fresh market and process the balance to the extent that appeared to be worthwhile from a financial standpoint. This is exactly the program which has been carried out successfully for years by the Apple Growers Association at Hood River, Ore., for apples, pears, and small fruits.

Other fruit industries have used marketing agreement programs to solve this problem in their industries and to insure that everyone co-operates in handling his fair share of the industry surplus supply, or in keeping the less desirable grades or

(*Continued on page 23*)

This is a condensation of a talk delivered by Porter R. Taylor at the Kingston meeting of the New York State Horticultural Society and prepared especially for AMERICAN FRUIT GROWER readers. Mr. Taylor is director of the fruit and vegetable department of American Farm Bureau Federation at Washington 1, D. C.

Making a Quick Start with Peaches

Delaying pruning until the eighth or tenth year gives heavy early crops of Elbertas in Kentucky

By E. K. GOULD

FRANK T. STREET of Henderson, Ky., past president of the National Peach Council and Kentucky's leading peach grower, is a man who believes in research. In 1939, when W. D. Armstrong of the Western Kentucky Experiment Station at Princeton asked him to make available part of a newly-planted Elberta orchard for a pruning project, he was quick to agree. What Armstrong wanted to do was compare yields of trees pruned to the conventional, low-headed open-center with trees pruned to the modified leader system. For comparison, he left some trees unpruned.

Much to his surprise, he found that the unpruned trees made the best yield record. From 1943 through 1949, all the trees bore seven consecutive heavy crops, and each year during this period the unpruned trees produced an average of 114 bushels more per acre than the open-center trees and 76 bushels more than the modified leader trees. During this period fruit from the unpruned trees ran 197 peaches per bushel or in the 2¼ to 2½-inch class, while the fruit from the pruned trees ran 178 per bushel, only slightly larger.

Why was there such a variation in yields? From the start the open-center trees were pruned heavier than the modified leader trees and consequently made the most new growth, with the non-pruned trees making the smallest terminal growth. Despite the increased growth, however, the pruned trees never made up for the fruiting surface cut away, since pruning basically is a dwarfing process.

It is important to bear in mind that Elberta is a so-called "self-thinning" variety and that the same results may not hold true for Redhaven, Halehaven, or some of the other heavy-setting peaches.

The behavior of the non-pruned trees was interesting. Because they carried heavy crops, the trees were weighted down with fruit and did not grow as high as the other trees. By the time the trees were 10 years old considerable breakage of limbs resulted. Also, the trees acquired such a spread that they overlapped in the rows and between the rows when planted 24 feet apart. Probably 30 feet is needed for non-pruned trees.

The fruit of the non-pruned trees had excellent color because the weight of the crop consistently opened up the trees and the fruit was carried on the perimeter of the branches. But the trees became hard to manage and needed corrective pruning.

The time when this corrective or rejuvenation-type pruning may start will vary depending on the rate of growth as determined by fertility of the soil, fertilizer program, planting distance, and regularity of cropping. Indications are that pruning might be delayed until the eighth, tenth, or twelfth year.

Rejuvenation pruning is the complete removal of some of the thick, lower, shaded limbs, as well as any excess upright limbs. Spreading branches are shortened back to laterals in order to make room for orchard equipment. The entire top is thinned out with some cutting back. Rejuvenation pruning will reduce yields sharply the next season but by the following year production should return to high levels.

Because it hastens bearing and saves labor costs, several commercial orchards in Kentucky have been brought into bearing with only a small amount of pruning the first and second years to select and shape scaffold limbs. These orchards carried heavy crops in 1947, 1948, and 1949, and a partial crop in 1951.

However, with the complete freeze-out in 1951, some heading back was done to encourage lateral growth. When growing peach trees according to this system, it is wise, if the crop is lost by frost, to head back the trees after their fourth or fifth growing season. THE END

State NEWS

• Tornadoes Caused Little Damage to Fruit Crops
• Cherry Growers to Control June Rains

ARKANSAS—The tornadoes of March 21 did negligible damage to fruit crops. Loading and marketing sheds in the White County strawberry area were extensively damaged, as were several processing plants, but practically all are expected to be in shape for strawberry harvest. Low temperatures the two nights following the storm did considerable damage to the peach crop and destroyed early blooms on strawberries.

A near normal strawberry crop is expected on acreage about 10 per cent under 1951. In the Nashville area a 50 to 65 per cent peach crop is in prospect. In the Johnson County area growers estimate 70 to 80 per cent of a normal crop providing no further cold damage occurs. The Crowley's Ridge area in eastern Arkansas has prospects for a bumper peach crop.—*Earl J. Allen, Sec'y, Fayetteville.*

WASHINGTON—Cherry growers in the Yakima and Wenatchee areas have formally voted to assess themselves $1 per ton on commercial cherry sales for research during 1952 to control June rains. Annual June rains split portions of the cherry crops in these two areas. In recent years nearby wheat growers have induced rain in June through cloud seeding. The rain control research would be based on over-seeding the clouds which has the effect of drying them up.

The Washington State Fruit Commission will collect the $1-per-ton assessment. A non-profit corporation is being formed to contract for the research work. Any funds from the assessment not needed in weather research will be applied to the commission's fruit fly research program.

MASSACHUSETTS—William R. Cole, retired professor of food technology at the University of Massachusetts and secretary of the Massachusetts Fruit Growers Association, died April 11 at the age of 72.

Mr. Cole was a widely recognized authority on food preservation. He was a member of the University of Massachusetts faculty for 32 years until his retirement two years ago. In 1932 and 1933 he headed the Massachusetts food production and processing program for the WPA. He was secretary of the fruit growers' association for 26 years.

CALIFORNIA—This state's fruit crop is on the trees but we are not sure what we have yet. The blossom was heavy for the most part and if the set is commensurate with the blossom we will have big thinning and marketing problems.

Soil moisture has been excellent with one of the wettest winters of record. To date frost damage has been light. There has been an increase in brown rot due to high moisture conditions and inability of growers to get on the land to spray.

Spray thinning paid off in one California orchard. The University of California in a carefully controlled experiment sprayed part of a French prune orchard with dinitro sprays. The sprayed portion of the orchard had a gross return of $635 per acre compared to $430 an acre on the unsprayed portion. On the sprayed acreage the total tonnage and number of fruits were lowered but the size was increased and dehydrating costs were lowered. Spray thinning tends to promote more regular bearing.

The California Almond Growers Exchange is protesting the dumping of foreign almonds on the U. S. market. Spanish almonds are being sold at 10 per cent less than they are offered to the European market.—*Jack T. Pickett.*

NEW YORK—No fruit damage from frost, yet. Greening bud looks light after heavy 1951 crop. Some McIntosh orchards light. We estimate that 10 per cent of our orchards have been abandoned or pulled out in the last two years.

Early dinitro dormant sprays were applied April 3, 10 days ahead of last year. More parathion will be used in delayed dormant this year to save money. Pruning is heavy. Planting of semi-dwarf apples is taking hold in efforts to cut heavy cost of pruning. More replanting of peaches is going on in western New York.

B. J. Case of Sodus, who had passed the 90-year mark, died recently. He was active in his orchard enterprises until his death, having developed just two months ago a mail order business in frozen cherries.—*D. M. Dalrymple, Sec'y, Lockport.*

IOWA—Mother Nature has a way of showing how much fortitude a man possesses. Take Charles W. Hamilton of Bedford, for example. He had a 20-acre apple orchard which in 1940 produced 3,000 bushels of apples. The November 11 freeze in 1941 left him with 40 or 50 trees which subsequently died. In 1942 he set 30 acres, and two acres since. They are just coming into bearing. The varieties are primarily Starking, Jonared, Grimes, Golden Delicious, and Winesap. But he has over 70 kinds of apples, including a few trees of old varieties.

Mr. Hamilton says, "Some people made fun of me for resetting at my age 57 but

(*Continued on page* 16)

FRUIT PEST HANDBOOK

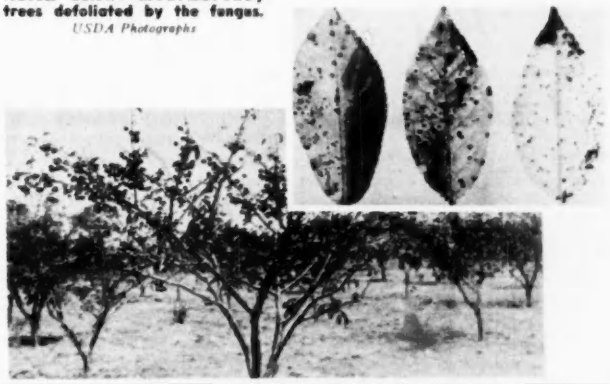
(THIRTEENTH OF A SERIES)

CHERRY LEAF SPOT

THE fungus disease commonly called leaf spot or shot hole is widely distributed in the eastern half of the United States. All commercial varieties of cherry are susceptible but the sour varieties are particularly so. In some seasons only a few leaves may be affected and little damage done, but frequently the leaf infections become so numerous that the trees are defoliated by midsummer.

Under these conditions the crop fails to mature, spur growth is reduced thus affecting the size of the following year's crop, and the trees are so weakened that they may succumb to winter injury. Severe attacks of the disease (Continued on page 39)

Right—Leaf spot on Montmorency leaves. Below—Montmorency trees defoliated by the fungus.
USDA Photographs



CALENDAR OF COMING MEETINGS AND EXHIBITS

June 10-12—Produce Prepackaging Association, Neil House, Columbus, Ohio—Association headquarters, 420 Lexington Ave., New York 17, N. Y.

June 11-13—National Apple Institute annual convention, Hotel Chinook, Yakima, Wash.—Truman Nold, Exec. Sec'y, Washington, D. C.

June 21—Erie County, Pa., Fruit Growers Field Day with tours through six orchards and Penn State College Field Research Station.—H. J. Poorbaugh, County Agent, Erie.

July 23—Fruit Day, University of Connecticut, Storrs. Commercial display and demonstration of orchard machinery and spray equipment to be featured.

July 24—Joint summer tour Virginia, West Virginia, Pennsylvania, and Maryland horticultural societies, with West Virginia as host, visiting Senator Byrd's orchards at Charles Town as well as other orchards and Kearneysville Experiment Station.—Carroll R. Miller, Sec'y, Martinsburg, W. Va.

Aug. 4-6—International Apple Association 58th annual convention, Hotel Jefferson, St. Louis, Mo.—Norbert Eschmeyer, Sec'y, 1302 18th St. N. W., Washington 6, D. C.

Aug. 13-14—Ohio Pesticide Institute annual meeting, Ohio Experiment Station, Wooster.—J. D. Wilson, Sec'y, Wooster.

Aug. 16—New York State Horticultural Society summer tour, to Vermont and/or Canada.—D. M. Dalrymple, Sec'y, Lockport.

Aug. 21—Orchard Day, Ohio Experiment Station, Wooster.—C. W. Ellenwood, Sec'y, Hort. Society, Wooster.

Aug. 25-27—Northern Nut Growers Association 43rd annual meeting, Rockport, Ind.—J. C. McDaniel, Sec'y, Urbana, Ill.

Sept. 24-26—Florida Fruit and Vegetable Association convention, Casablanca Hotel, Miami Beach.—Association headquarters, 4401 E. Colonial Dr., Orlando.

Oct. 6-8—Texas Citrus and Vegetable Growers and Shippers, Inc., 10th annual meeting, Plaza Hotel, San Antonio.—Austin E. Anson, Exec. Mgr., Harlingen.

Oct. 23-Nov. 1—National Apple Week. Full information available from National Apple Week Association, 154 East Ave., Rochester 4, N. Y.

Blossom and Fruit Festivals

May 6-8—Annual West Tennessee Strawberry Festival, Humboldt.

May 9-10—Idaho Apple Blossom Festival, Payette.

May 8—Kansas Blossom Festival, Troy.

May 15-16—Missouri Apple Blossom Festival, St. Joseph.

June 5-7—Ninth Annual Strawberry Festival, Portland, Tenn.

STATE NEWS

(*Continued from page 15*)

I told them I was not ready to cash in yet and hoped to harvest many crops of fruit." Hamilton has no trouble selling his crops, for, as he says, "I give big measure and have all the apples alike, in the bottom of the basket as well as on top."—*Wm. H. Collins, Sec'y, Des Moines.*

MICHIGAN—There is little evidence of cold injury either to fruit buds or fruit wood. Prospects look bright for a good crop of all fruits.

Prof. Stanley Johnston of South Haven Experiment Station says the limited number of plants available of his new early red raspberry introduction, named Early Red, have been distributed to nurserymen, to insure a stock of plants at the earliest possible date.

In the last seven years Michigan strawberry plantings have increased from 5,100 acres to close to 15,000 acres. This rapid increase is due to excellent outlets for processing and fresh market.

After a slow start this past fall, the price of apples has become increasingly more favorable. High standards of packing and generally high quality of the fruit have resulted in a continued demand for Michigan apples. (*Continued on page 38*)

WASHINGTON FRUIT LETTER

- **Farm Labor Dispute Continues**
- **Higher Production Expenses Are Predicted for 1952**

By LARSTON D. FARRAR
Washington Correspondent, American Fruit Grower

THE BATTLE over importing Mexicans, Jamaicans, or others to help out in labor-short farm areas rumbles around Washington from Capitol Hill to the bureaus and back.

As of now, it looks as if the situation this year will be similar to last year, with some added penalties for those who employ "wetbacks"—that is, Mexicans who come across the Rio Grande illegally.

Latest development is that the Secretary of Labor has been urged by his 18-member advisory committee on farm labor to conduct public hearings in each major agricultural area to determine the availability of domestic farm workers before certifying the need for bringing in foreign workers.

The committee, while stating that foreign workers should be made available to farmers, where essential, declared that such workers should be brought in on terms that will protect both the workers and the farmer-employers. The committee declared that "too many" foreign workers came into the U.S. for farm work in 1951 and other recent years, although farm groups in some areas would dispute this.

The committee also urged that the Farm Placement Service of the U.S. Employment Service emphasize programs for recruiting domestic labor and for improving working conditions, adding that these measures will increase the supply of domestic farm workers.

TRUMAN NOLD, the alert executive director of National Apple Institute, has been holding a series of meetings with officials of both the USDA and the Department of State in preparation for what he hopes will be a more adequate export program. So far, aside from the influence which Nold and other fruit representatives may bring to bear, the export situation does not seem too favorable.

PRICES farmers pay for goods and services used in farm production will average higher in 1952 than in 1951, the Bureau of Agricultural Economics, USDA, has stated.

Prices have been averaging about four per cent higher on farm-cost items for the first quarter, but BAE predicts that the overall total of farmers' production expenses will be about five or six per cent higher this year than in 1951—the highest on record. Such costs have risen almost every year since 1938, BAE said. Wage rates, as was predicted here a year ago, now are 11 per cent higher than a year ago.

TO facilitate the movement of heavy volume of pesticides and fertilizers, Secretary of Agriculture Charles F. Brannan has urged that farmers order supplies well ahead of the time for applying them.

Farmers' total requirements for pesticides are expected to run about nine per cent higher than last season, according to the USDA. On the whole, supplies should be equal to demand, and prices generally are not greatly different from those of a year ago.

Supplies of pesticides containing copper and sulfur, however, may not be sufficient to fill demand, but alternate materials will be available.

Fertilizer supplies are increased slightly, although it is expected less phosphate will be available.

WORLD apple production for 1951 is now estimated by the Office of Foreign Agricultural Relations, USDA, at 507 million bushels, compared with 715 million in 1950 and the prewar (1935-39) average of 498 million. Excluding cider apples, the crop is estimated at 415 million bushels in 1951 compared with 487 million in 1950 and the prewar average of 334 million.

The North American apple crop in 1951 was the smallest since 1948 and now is estimated at 129 million bushels, compared with 141 million in 1950 and the prewar average of 143 million.

World pear production now is estimated to total 150 million bushels in 1951 compared with 193 million in 1950 and the prewar (1935-39) average of 131 million. Excluding ciders, the crop is estimated at 129 million in 1951, compared with 151 million in 1950 and the prewar average of 103 million.

In North America, where production is dominated by U.S. output, the crop totaled 35 million bushels or slightly more than the 33 million in 1950 and the prewar average of 30 million bushels.

DU PONT NuGREEN®

FERTILIZER COMPOUND

Has Special Advantages as A Nitrogen Spray

FOR APPLES

Feed nitrogen through the leaves. Simply spray "NuGreen" on the foliage.

Save labor. Apply "NuGreen" in pest-control sprays and do two jobs in one.

Control nitrogen supply effectively. You use no more, no less, than required for high yields of quality apples.

Get quick, sure response. Results show up quickly even in dry weather when roots can't absorb nitrogen from the ground. Foliage absorbs the nitrogen of "NuGreen" within a few hours.

Safe for foliage and equipment. Does not tend to burn leaves or corrode metal when used as recommended.

Prevent waste. You feed the trees exactly what they need and no more; roots absorb the spray drip.

ASK YOUR DEALER *for recommended spray schedules and how to use "NuGreen" on apples. Ask your fertilizer dealer also for booklets describing uses of "NuGreen" that have special advantages for certain other crops.*

* * *

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BETTER THINGS FOR BETTER LIVING . . . *THROUGH CHEMISTRY*

"NuGREEN" Shows Promise For Other Fruits

Nine years' experience has already proved the special values of "NuGreen" sprays for apples in the East and Midwest. Spray application is now also proving useful in West Coast apple areas.

Trial sprays of "NuGreen" now show promise also for peaches, pears, cherries and prunes. For these fruits, however, only small-scale grower tests are advised until exact spray recommendations can be developed.

Use of "NuGreen" in irrigation water has likewise proved effective for many fruits, including strawberries, citrus and others.

scab-resistant APPLES

An encouraging report on the program to breed resistance to scab into standard commercial varieties.

By ELDON S. BANTA

THE time may be coming when we can grow a good quality apple without spraying for scab control.

The August, 1948, issue of AMERICAN FRUIT GROWER reported the cooperative apple breeding program in its infancy at the agricultural experiment stations of Purdue University and the University of Illinois. Since then the experiment stations of New Jersey, New Hampshire, and Virginia have joined the research effort. Last summer, Dr. J. R. Shay, who is in charge of the work at Purdue, harvested fruit from seedlings of the first crosses and reports good prospects for scab-resistant apples.

Certain species of crab apples are resistant to scab. These are crossed with known varieties of good size and quality to obtain a new variety which Dr. Shay and his co-workers hope will be scab-free and have good size and flavor.

Crab species which have shown high potency for transmitting scab resistance are *Malus atrosanguinea*, *M. floribunda*, and *M. Zumi calocarpa*. Also a Russian crab seedling has transmitted scab-resistance well.

Known apple varieties which have shown exceptional potency for transmitting high quality to offspring are Jonathan, McIntosh, Delicious, Golden Delicious, and Wealthy.

Such varieties as Wolf River and Twenty Ounce are being used for transmitting fruit size.

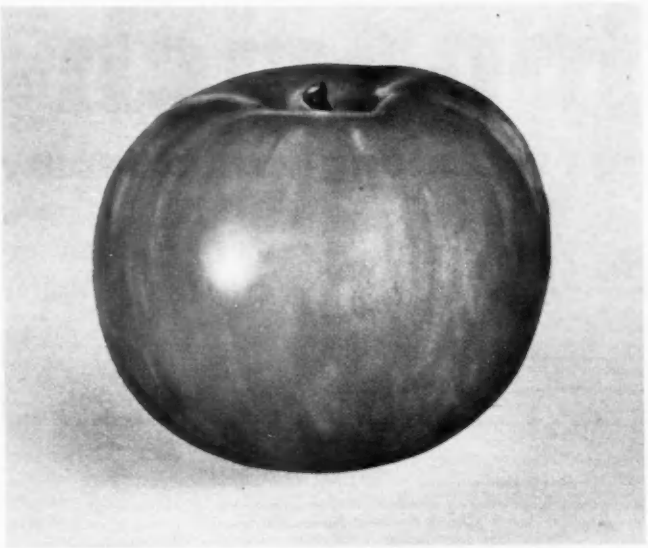
Several crosses have shown great promise. One is the result of crossing Wealthy with a Russian seedling which resulted in some seedlings with apples up to two and three-fourths inches in diameter. The fruits of the hybrid seedlings have much of the color and shape of Wealthy, and most possess the stringency of the Russian seedling to some extent. The unsprayed fruits and foliage were free of scab when I saw them last summer.

Several three-way crosses have appeared promising. One consists of Rome Beauty by *M. floribunda* and the resultant fruit crossed with Golden Delicious. One seedling from this cross has yellow skinned, scab-free fruit about two and one-fourth inches in diameter. It, too, is slightly astringent in flavor. It should make a good parent in the next cross. THE END

Unsprayed fruit with no scab spots from five-year-old tree: Jonathan X (Rome Beauty x *Malus floribunda*).

Fruit of *Malus floribunda*, used in breeding scab resistance, measures one-half inch and is bright red.

Photos by the Author



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STREAMLINE your cover spray program! Produce more clean fruit at lower cost with all-summer use of Black Leaf 253, the new cover spray which provides simple, easy, one-product control of codling moth, red-banded leafroller, leafhoppers, European red mite, red spider mite, San Jose scale, Forbes scale, and similar pests.

BLACK LEAF 253 is Black Leaf *Tobacco Base* "impregnated" with 25% of DDT and 3% of Parathion by an exclusive process. In years of tests, Black Leaf 253 topped other more complicated and more expensive spray programs in TOTAL CLEAN FRUIT.

DUSTLESS. Black Leaf 253 is scientifically treated to eliminate dust. Just dump it in the water as the spray tank is refilling.

COMPATIBLE. Mixes with all the fungicides and other materials recommended in combination with DDT and Parathion.

LESS RESIDUE. Black Leaf 253 provides excellent control with minimum chemical residue and essentially no visible residue.

START NOW to spray regularly with economical, easy-to-use, highly-effective Black Leaf 253. *Write for free circular!*

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OTHER FAMOUS **Black Leaf®** SPRAY MATERIALS

TEPP

Black Leaf TEPP 40 contains 40% tetraethyl pyrophosphate and 60% other organic phosphates. Used at the rate of one-fourth to one-third pint in 100 gallons of water, Black Leaf TEPP 40 controls European red mite, two-spotted mite, Pacific mite, clover mite, also leafhoppers (nymphs) and aphids infesting apples, pears, peaches and similar crops.

Black Leaf TEPP 40 should be applied promptly after preparation of spray mixture. Follow directions on package and consult local agricultural authorities for information on timing of applications, etc.

DDT

Black Leaf 50% DDT Wettable Powder is well known and widely used to control codling moth, oriental fruit moth, leafhoppers, citrus thrips, and similar insects. Do not apply to fruit within 30 days of harvest. Follow directions on package.

Parathion

Black Leaf Parathion Wettable Powder formulations are *dustless*. Available as 15% or 25% Parathion, these desirable formulations are designed to avoid the problem of "dustiness" when the wettable powder is being handled. Permits the addition of the Parathion Wettable Powder directly to the spray tank while refilling.

Black Leaf Parathion Wettable Powders are effective against European red mite, two-spotted mite, Pacific mite, brown almond mite, various species of aphids, and certain other insects. Parathion, while extremely effective as an insecticide, is also highly poisonous to human beings if inhaled, absorbed through the skin, or swallowed. Danger may be minimized if most stringent precautions are rigidly observed. Follow directions on labels, and consult local agricultural authorities for information on the proper use of Parathion.

DEPENDABLE PEST CONTROL PRODUCTS SINCE 1885

B.F. Goodrich

tires give Garling Farms long-run economy

GARLING FARMS lies in the heart of the Rio Grande Valley near Harlingen, Texas. Its 2,200 acres of rich soil produce cotton as well as many kinds of vegetables.

Forrest Garling has farmed this land for over twenty years. Today his operations call for four foremen and an average of forty farm hands throughout the year—plus more than a thousand extra workers during the cotton-picking season. Fifteen tractors work the fields, while ten trucks, three passenger cars and two Jeeps handle other farm chores.

Much of the farm's acreage is devoted to cabbage, a vegetable requiring a great amount of irrigation. This makes the soil muddy and heavy, so tire traction is one of Mr. Garling's chief problems. That's why he prefers B. F. Goodrich Power-Curve tractor tires—the tires that tests prove outpull other leading makes.

Power-Curve tires give you this full shoulder-to-shoulder traction because each cleat is pointed with an arrowhead nose that bites into the soil. No spinning wheels to waste time and fuel—every turn of a Power-Curve tire counts. Dirt drops out of open channels between the evenly spaced cleats. Power-Curve tires stay clean—another aid to maximum traction. And Power-Curve tires wear longer because the cleats are actually higher in the center than those of the other two leading makes. Add up these facts and you will understand why Mr. Garling likes the long-run economy Power-Curve tires give.

To prepare cotton land for planting, Garling Farms uses tractors equipped completely with BFG tires—from "Easy Steer" and Multi-Ring front tires to Power-Curve rear tires.

These Tubeless Tires have rolled 21,000 miles without a flat. Forrest Garling, pictured with his daughter, Sherry Ann, expects another 25,000 miles from them.

More recaps from BFG truck tires

Garling Farms carries its preference for BFG tires to its cars and trucks. Mr. Garling recaps B. F. Goodrich truck tires regularly—feels they are good for as many as four recaps. All BFG truck tires of 8 or more plies are built with the exclusive nylon shock shield. Extra-strong nylon cords absorb shock and protect the tire body. Tires wear longer. You get more recaps and more miles per recap.

Successful farmers such as Forrest Garling benefit from the extra savings of B. F. Goodrich tires. That's why all their equipment—implements, tractors, trucks and cars—roll on BFG tires. No matter where you farm or the size of your operation, you also can benefit from BFG tires. See your local B.F.Goodrich retailer—you'll find him listed under Tires in the Yellow Pages of your telephone directory—or write: *The B.F.Goodrich Company, Akron, Ohio.*

Heavily irrigated cabbage fields call for the extra power BFG tires give.

B. F. Goodrich "Life-Saver" Tubeless Tire defies skids!

The *new* "Life-Saver" Tubeless Tire not only seals punctures and protects against blowouts—*it defies skids, too!* The tire has a new kind of tread engineered with thousands of tiny, flexible "grip-blocks." In wet weather, these "grip-blocks" grip for quick stops because they wipe the road so dry you can light a match on it. Starting up, they grip like a caterpillar tread to get you going fast. No wonder in rain this "Life-Saver" tire stops in as much as 20% less distance, pulls as much as 40% better than regular tires.

And the "Life-Saver" *outwears* other passenger tires, too, because the tiny tread blocks have a "walking action" that reduces scuffing. The new BFG "Life-Saver" Tubeless Tire *may* save your life, *can* save you trouble, *will* save you money!

New "Life-Saver" Tubeless Tire tread wipes a wet road so dry you can light a match on it!

RESEARCH KEEPS B.F.Goodrich FIRST IN RUBBER

The QUESTION BOX

Of the pears Patten, Gorham, and Beierschmitt, which is best in quality?—*Illinois*

Gorham and Beierschmitt are both good to excellent in quality and more blight resistant than Bartlett, says J. C. McDaniel of the University of Illinois. Mr. D. F. Dayton, also of the University of Illinois, sampled them both under New Hampshire conditions and rates Gorham highest. Patten is a considerably smaller pear than the other two and not so promising under Illinois conditions.

Among the hardier pears of high quality, Mr. McDaniel lists Devoe, Maxine, and Farmingdale. In Illinois tests, young trees of Devoe and older ones of Farmingdale have never shown any blight. Other new and promising varieties for Illinois and similar climates are Richard Peters (from Pennsylvania) and King Charles of Wartemberg (a European import), although there is a chance these might not be hardy in northern Illinois.

Where is the headquarters of the National Peach Council?—*California*

Headquarters for the National Peach Council is 1502 S. Lincoln Street, Urbana, Ill. Write in care of M. J. Dorsey, Secretary.

Could you tell me who manufactures a small cherry pitter?—*Kentucky*

Try the Enterprise Manufacturing Company of Pennsylvania, 3rd and Dauphin Avenues, Philadelphia 33, Pa.; or the Smith-Hoover Industries, 2340 Southwest Nedge Avenue, Kalamazoo 35, Mich.

Last year we planted strawberries between several rows of young apple trees in our orchard. Since then I've wondered whether spray materials harm strawberries in any way. We intend to use dormant oil, lead, lime sulphur, Formate, and DDT this year.—*Wisconsin*

The spray materials you mention should not harm your strawberry plants, although it would be wise to keep drift of the spray onto the plants to a minimum. Your problem is with residue which might accumulate on the fruit. For instance, arsenate of lead should not be used on a strawberry planting from just before bloom until after harvest. A. E. Mitchell, spray specialist at Michigan State College, suggests substituting DDD (Rhothane) for lead arsenate if red banded leafroller becomes a problem, and methoxychlor could be used instead of lead for curculio. DDT would not ordinarily be needed for codling moth control until the second cover spray for northern areas, making it possible to hold DDT residues to a minimum by careful spraying.

What firm manufactures a small power bone grinder? I have available large quantities of bone, but they are of such size and shape to be of no use to me as fertilizer, part poultry rations, etc.—*New Jersey*

Below are listed several manufacturers who should be able to supply you with a small bone grinder:

Pulverizing Machinery Co., 25 Chatham Rd., Summit, N. J.; Mitts & Merrill, 67 McCosky St., Saginaw, Mich.; Prater Pulverizer Co., 1517-41 South 55th Court, Chicago, Ill.; and F. W. Mann Co., Milford, Mass.

IN CONCENTRATE SPRAYS...

—John Bean photo

use CRAG Trade Mark Fruit Fungicide 341

FOR EFFECTIVE CONTROL OF APPLE SCAB AND CHERRY LEAF SPOT

It gives You —

- **less bulk in the spray tank**
- **less chance of nozzle plugging — it's a liquid fungicide**
- **shorter filling time**

CRAG 341 is specially suited for concentrate sprays. This liquid glyoxalidine fungicide goes into solution easily with minimum agitation even at the highest concentrations. It saves filling time because it requires no screening—just pour it into the spray tank.

CRAG 341 has been used extensively in concentrate sprays by many growers in the principal apple-growing regions where scab is a problem. It can give effective apple scab control in either regular *or* concentrate sprays.

Crag is a registered trade mark of Union Carbide and Carbon Corporation

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CARBIDE AND CARBON CHEMICALS COMPANY

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ALL THE KING'S MEN

(*Continued from page* 13)

sizes off the fresh market. Citrus fruits, pears, peaches, nuts, and dried fruits have availed themselves of the marketing agreement authority for as much as 10 to 15 years to meet these problems.

Last season apple growers learned by bitter experience how important the processing outlet is to them. While the canning of apples was developed initially with prices only on a salvage basis, by World War II it became evident that apples could be processed at prices in line with fresh fruit values and with a profit to both grower and processor alike.

Suddenly in 1951 this outlet largely disappeared because of a carryover from the preceding season. As a result, over eight million bushels were not processed in 1951, even at the ruinously low prices which prevailed. Growers stopped harvesting and when processors raised prices enough to attract deliveries, most of the fruit was not in condition for processing. Thus, it was a complete loss to producer, processor, and consumer alike.

It would seem only reasonable that growers should take steps to prevent the recurrence of such a situation. This might be done by development of a bargaining organization to represent producers in price negotiations with processors. If this is not feasible, then growers should provide themselves with processing facilities either through ownership of such facilities or by contract with processors.

But the key principle of such a program should be to take as much of the uncertainty out of the processing situation as possible, and to strengthen rather than weaken the price in the fresh market.

Why Not a Pound More Per Capita?

For every change of one pound per capita consumption, an outlet has been gained or lost for three million bushels of apples. A one-pound increase would be almost equal to the average quantity of apples exported in each of the years beginning with the 1945 crop. If the six pounds of per capita consumption of fresh apples lost during the past decade could be regained, growers would have an outlet for 18 million bushels more apples. This would offer a more favorable market prospect and would offset the loss of exports.

In conclusion, it would seem evident that the apple grower must move into fruit distribution along the lines indicated. Through proper organizations of his own, he must balance the quantity and quality offered as fresh fruit to the known capacity of the fresh market, while doing everything possible to enlarge that outlet through efficient promotion and more efficient merchandising.

At the same time, practical arrangements to process the balance of the crop must be made in a manner which will help to restore the grower's total net income for his fruit without creating disastrous competition between fresh and processed apples in the channels of distribution.

None of these is an impossible task, because other parts of the fruit industry have led the way in this field. Rather, the problem is to create a realization among apple growers that if they do this they will benefit by its success. Surely such efforts toward improvement are worth the attempt for the good of the entire apple industry. THE END

The ABC's of
Spreaders · Wetters · Stickers

By HERMAN KING
Michigan State College

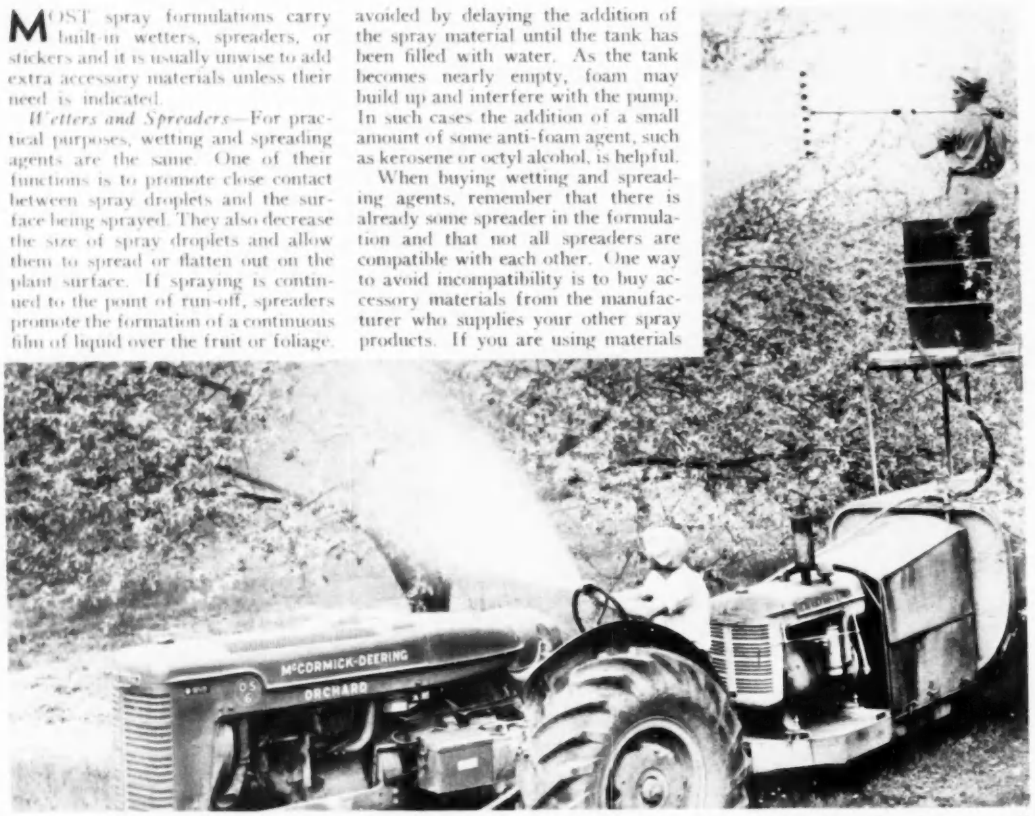
MOST spray formulations carry built-in wetters, spreaders, or stickers and it is usually unwise to add extra accessory materials unless their need is indicated.

Wetters and Spreaders—For practical purposes, wetting and spreading agents are the same. One of their functions is to promote close contact between spray droplets and the surface being sprayed. They also decrease the size of spray droplets and allow them to spread or flatten out on the plant surface. If spraying is continued to the point of run-off, spreaders promote the formation of a continuous film of liquid over the fruit or foliage. The importance of a film type of coverage was established with lead arsenate but is not so certain with contact materials such as DDT and parathion.

When using concentrate sprays the concentration of spray material in the tank automatically increases the amount of built-in spreader. However, less liquid is applied to each tree and there is no drip, and since there is no run-off and no film formation, even more spreader may be desirable. If spreader is added it should be in proportion to the water used rather than to the spray chemicals, i.e., in a 3X spray it is *not* necessary to add three times the usual amount.

Occasionally the high concentrations of spreader used in concentrate spraying may cause troublesome foam in the tank. This difficulty can be avoided by delaying the addition of the spray material until the tank has been filled with water. As the tank becomes nearly empty, foam may build up and interfere with the pump. In such cases the addition of a small amount of some anti-foam agent, such as kerosene or octyl alcohol, is helpful.

When buying wetting and spreading agents, remember that there is already some spreader in the formulation and that not all spreaders are compatible with each other. One way to avoid incompatibility is to buy accessory materials from the manufacturer who supplies your other spray products. If you are using materials from several sources, a safe procedure is to buy one of the "non-ionic" spreaders, such as Triton B-1956, Atlas NNO, Tween, or Trem 615.



Stickers—The more common types of "stickers" are the flocculators, the oils, and the water-repellent films.

Flocculators cause particles of wettable powders to gather into small clumps or "flocs." These clumps settle rapidly to the bottom of the spray droplets where there is more chance of their sticking to the leaf or fruit surface. The addition of one pound of lime to 100 gallons of wettable sulfur spray is a common method of increasing setting action.

Summer oils and oil-type stickers, such as Orthex, function by sticking to the waxy surface of fruits and foliage. Wettable powders in the mixture stick to the oil and the run-off is more or less clear. Oil stickers are sometimes used in sprays applied during rainy weather since they become adhesive and water-repellent almost as soon as they reach the tree.

Stickers which are readily dissolved or suspended in water but which dry to a water-repellent film may increase the ability of the deposit to withstand weathering. Calcium caseinate preparations, for example, act as spreaders when wet but when dry become water-repellent films.

As a general rule, stickers should not be added unless they are specifically recommended. Careless use of stickers may increase deposits to an extent that will be injurious during hot weather or excessive at harvesttime.

THE END

Aramite* — the mighty miticide

Controls European Red Mite, Pacific Mite, Two-Spotted Mite (as illustrated in treated apple tree above) Clover Mite and most other mites extremely effectively at economical dosages.

Results: More top-quality apples, peaches, almonds and walnuts.

Advantages: Non-hazardous, low cost per acre, compatible with most commonly used fungicides and insecticides, harmless to natural predators, gives no unpleasant flavor or odor to fruit.

Phygon**-XL the orchard fungicide

Controls apple scab, bitter rot of apples and peaches, California blight of peaches, peach leaf curl, cherry leaf spot and other fungous diseases. Phygon-XL has proved to be the most potent non-mercurial fungicide commercially available.

Results: Increased yields of top-quality apples and stone fruits.

Advantages: Extremely low cost per acre, very easy to apply, compatible with most commonly used fungicides and insecticides, harmless to pollen and bees.

Write for free Aramite and Phygon-XL Bulletins

*U. S. Pat. No. 2,529,494 **U. S. Pat. No. 2,349,772

UNITED STATES RUBBER COMPANY

Naugatuck Chemical Division • Naugatuck, Connecticut

manufacturers of seed protectants — Spergon, Spergon-DDT, Spergon-SL, Spergon-DDT-SL, Phygon Seed Protectant, Phygon Nuggets, Phygon-XL-DDT, Thiram Nuggets — fungicides — Spergon Wettable, Phygon-XL — insecticides — Synklor-48-E, Synklor-50-W — fungicide-insecticides — Spergon Gladiolus Dust, Phygon Rose Dust — miticides — Aramite.

The magic of electronics is simplifying citrus operations

Intricate mechanisms perform orchard and packing house tasks in the twinkling of an eye

OVER 600 patient but enthusiastic growers at the recent National Orange Show Citrus Institute at San Bernardino, Calif., watched intently the performance of new inventions which may well prove to fulfill their dreams of reducing fruit handling operations and costs.

Among the numerous inventions was Food Machinery Corporation's black light, which shows up early infections of fungus diseases and decay organisms, such as brown rot, before these organisms are visible to the naked eye. This invention is already in use in several packing houses.

Another recent invention is a device for mechanized picking. The picking machine is being developed by a prominent manufacturer and will dispense with the ladder and the picking bag.

Two projects are now under way on mechanical fruit sizing, as proper sizing is especially important for mechanical packing. It is believed that a mechanical packing system—using all the devices now in prospect—is possible and probable. The University of California and many manufacturers are co-operating in making this orange growers' dream a reality, for then operation costs will be cut in half.

Color Sorter

Perhaps the most interesting of the inventions displayed was the electronic sorter, a machine that sorts citrus fruit according to color by electronic methods. Because citrus fruits ripen unevenly, they must be carefully sorted before marketing.

The metering device feeds the fruit in single file into the sorting chamber. When the illuminated fruit passes through the bank of light-sensitive cells installed in the machine, its reflectivity response is used to set up electrical operations in the signal and power circuits. These provide the energy necessary to operate the proper gates for routing the fruit into its correct color class.

If the fruit is fully ripe, it passes through the mechanism without operating a gate. If not fully ripe, the amplified energy from its reflectivity response signals the correct gate combinations to direct it into the proper color class. Before the next fruit is processed, the gate must close.

This entire process requires from a quarter to a fifth of a second; thus a single-unit machine color-sorts four to five fruits a second. The machine is consistent and satisfactory in its color-sorting operations. Also, the segregation may be adjusted to meet individual packing-house color requirements.

Harold J. Winter, a comparative newcomer to the ranks of citrus fruit growers, was proclaimed the World's Champion Orange Grower for 1952 during the recent National Orange Show in San Bernardino, Calif.

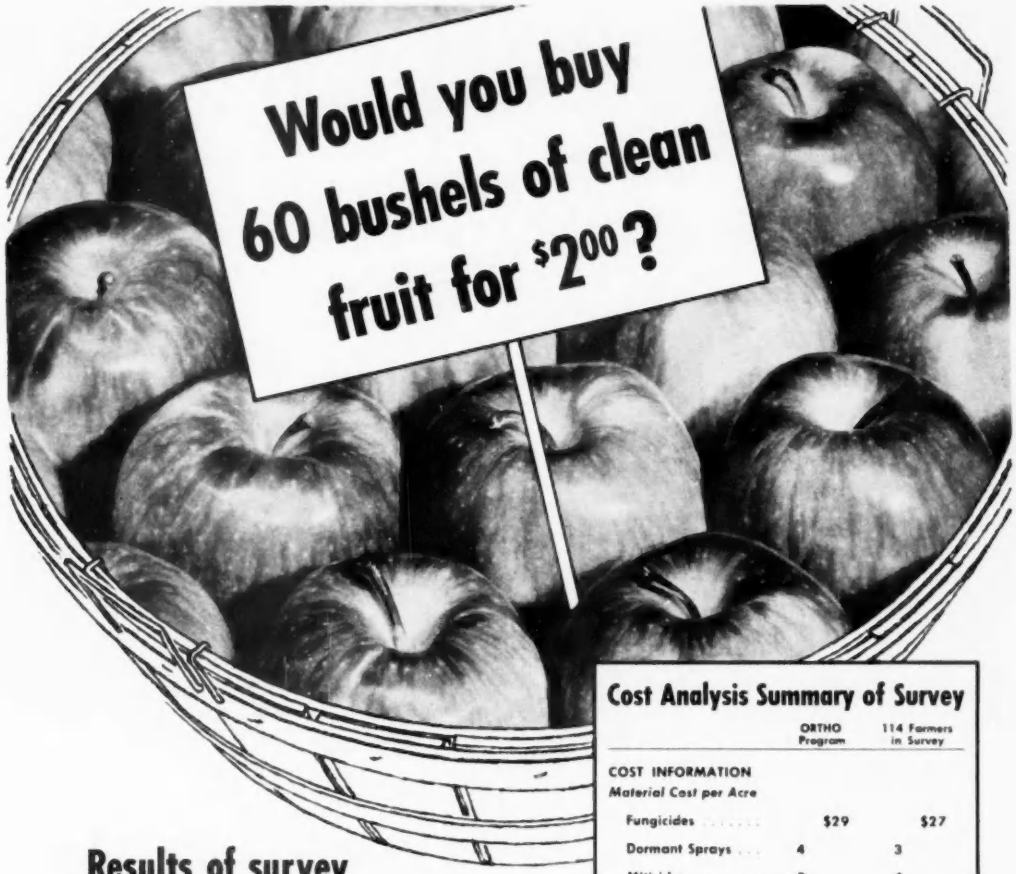
Mr. Winter is a Redlands, Calif., department store manager who first ventured into the citrus-growing industry in 1946 with the purchase of a 10-acre orange grove. He won the grower's sweepstakes prize of $225 with his 24 boxes of Washington Navels, all in size 176.

His fruit won the prize on the basis of sugar content, color, texture, uniformity of size, and citric acid content. The judges remarked that the unusually fine coloring of the fruit—the finest so far as color is concerned that has ever been displayed in the Orange Show—was a big factor in its placement.

Since it is responsive to the chlorophyll in the fruit, the electronic sorter may be adapted for use with other fruits. More recently one has been adapted for the California tomato industry.

Both the electronic color-sorter and sizer were developed by Agricultural Engineer John B. Powers of the University of California at Davis. He was assisted by Jack T. Gunn and Frederick C. Jacob, specialists in the division of agricultural engineering. The work was carried out under a co-operative project of the Giannini Foundation and the agricultural experiment station, with Prof. H. B. Walker acting as co-ordinator.—*Mark McMillin*

Number of leaves per fruit rather than distance between fruits is sometimes an important point to consider when thinning. Scientists have figured that it takes about 50 good leaves to nourish and develop an apple and about 30 leaves to take care of a peach. A 12-year-old apple tree has from 60,000 to 90,000 leaves or about 3,300 square feet of leaf surface, which is about one-thirteenth of an acre.



Results of survey among 114 apple growers:

All 114 Farmers: Average reported marketing 83% clean fruit or a net (at the average yield rate of 400 bushels per acre) of 332 bushels.

***ORTHO* Users:** Reported marketing 98% clean fruit or a net (at the average yield rate of 400 bushels per acre) of 392 bushels. Additional cost of an *ORTHO* program was $2.00.

Bonus Yields for *ORTHO* Users: 60 bushels of clean fruit for an extra expenditure of $2.00.

Cost Analysis Summary of Survey

	ORTHO Program		114 Farmers in Survey	
COST INFORMATION				
Material Cost per Acre				
Fungicides		$29		$27
Dormant Sprays	4		3	
Miticides	3		4	
Other Insecticides	27		25	
All Insecticides		34		32
Hormones		1		3
Total Material Cost		$64		$62
CONTROL INFORMATION				
% of Clean Fruit Picked		98%		83%

always—you profit with ORTHO

ORTHO **spray and dust programs can boost your profits. For details, see your *ORTHO* dealer or contact any office below:**

CALIFORNIA SPRAY-CHEMICAL Corp.

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150 Bayway, Elizabeth, N. J.
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1010 East Reno, Oklahoma City 4, Okla.
P. O. Box 1231, Orlando, Fla.
P. O. Box 767, Goldsboro N. Carolina
311 Evans St., Caldwell, Idaho
81 S. E. Yamhill, Portland 14, Ore.
515 N. Tenth St., Sacramento 15, Calif.
675 Emory St., San Jose, Calif.
3208 Hamilton Ave., Fresno, Calif.
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SCIENTIFIC PEST CONTROL

Is PRICE CUTTING the only way to sell apples?

By CARROLL R. MILLER
Appalachian Apple Service

FROM all sides growers have for years heard this earnest advice: "Start your apples low in price—low enough to get The Trade really interested; low enough to start The Public buying them freely. Start apples low enough to force a big movement so that you have small December inventories in storage. Then prices will rise and you will have a Good Apple Deal."

Let's examine that, factually.

In Appalachia (which comprises the four states of Virginia, West Virginia, Pennsylvania, and Maryland) we have normally disposed of all but about five million bushels of our average 23 million-bushel crop by December 1. The records of Appalachian Apple Service show that for the past four years we have had 18 per cent of our total crop on hand December 1. Eighty-two per cent has been disposed of essentially.

Year	In Storage, Dec. 1	4-State Apple Crop
1951	4,683,759	23,118,000
1950	4,455,464	25,122,000
1949	3,814,193	23,176,000
1948	3,210,893	16,388,000

Nationally, we have disposed of two-thirds of the crop and average only about one-third (.36 per cent) in storage December 1.

Year	In Storage, Dec. 1	U.S. Apple Crop
1951	36,074,248	112,935,000
1950	54,100,595	123,126,000
1949	45,082,166	133,742,000
1948	30,234,413	88,407,000

(The average of .36 per cent on hand December 1 is high because "Processors' Stocks" are included in the above storage totals.)

The conclusion is clear and inescapable. Penalizing two-thirds of the crop to help prices on one-third is "the tail wagging the dog;" or, in Appalachia, cutting the price on 82 per cent to get better prices on 18 per cent. That is strange policy.

We grant, and endorse heartily, the desirability of "getting off to a rousing start;" of getting The Trade interested; getting The Public into the apple-eating habit each fall—and the earlier the better. Loss of two weeks of apple consumption is serious, as we found with 1950's two-week-late harvest.

But, price slaughtering is the method that has been pressed upon the growers to induce this rousing start. Price slaughtering is scarcely a respectable method. It is seldom sound business, especially when it means selling below cost-of-production. And that, emphatically, is what it has meant for eastern growers in recent years.

There are time-proven methods of inducing that desirable big, early movement; methods that cost a couple of cents per bushel instead of 50 cents to $1.25, which price-cutting costs. We mean, of course, promotion—advertising, publicity, working with distributors, etc. In short, the methods used by other businesses.

An early-season retail price that in recent years has induced heavy consumption by The Public is six pounds for 25 cents; or, in original package, $1.75 per bushel. Either of these probably means $1 to $1.50 per bushel to the grower.

The grower's cost-of-production averages at or above $2 per bushel, packed—without any profit. So the grower is paying 50 to 75 cents per bushel, and sacrificing his profit, for the "vigorous early-season movement" under the present system.

"Loss Leaders"

Grocers are forbidden by law, we understand, to use "loss leaders," which is selling items at a loss to attract customers. For growers, "loss leaders" are not illegal. But they are very, very costly. Looking over recent seasons, we cannot find a single year where the apple price level has risen appreciably before January 15—except in very short-crop seasons.

No matter how cheap we started apples, nor how great the volume of sales developed, it has been January 15 or later before The Trade was satisfied that inventories would clean up nicely and that they could safely pay more. A rise after January 15 helps only a small fraction of the crop; a fifth or less. Four-fifths or so have been sacrificed. It takes too long, by a couple of months, to get the price "up" after it has been slaughtered at the start.

(*Continued on page 30*)

The Heart of the World's Largest Vegetable Farm and Freezing Plant!

The 17 million dollar annual vegetable crop of Seabrook Farms in southern New Jersey may be accurately described as a miracle of modern assembly-line agriculture.

Taking produce from 50,000 acres, 19,000 of which are company operated, it produces 15% of the total frozen vegetables in the nation.

The largest operation of its kind in the world, Seabrook is probably the only farm in existence that grows, processes, quick-freezes and transports to distributors its own crops.

In operating this fabulous enterprise, a high degree of mechanization is essential, particularly at peak seasons when huge floodlights are used to make round-the-clock harvesting possible.

Over 600 engines in cars, trucks, tractors, stationary engines and other self-powered farming equipment must be, and remain, on the job. In this vast fleet—including eight planes for crop dusting—every service item must obviously meet the most rigid and exacting standards.

"In production line farming dependable spark plugs might well be called the heart of our everyday operation," says Mr. Joseph Franco, Seabrook's Superintendent of Maintenance. "We require the utmost dependability from them because we cannot tolerate delays, let alone failure of any engine. We have used Champions exclusively for years because they insure the utmost in performance, economy, dependability."

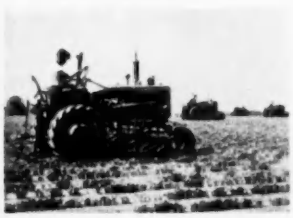
The Sign of Dependable Service!

FOLLOW THE EXPERTS

DEMAND CHAMPION SPARK PLUGS FOR EVERY FARM ENGINE

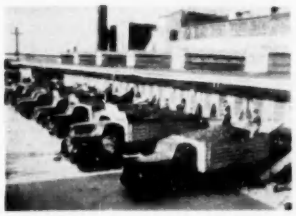
CHAMPION SPARK PLUG COMPANY, TOLEDO 1, OHIO

SEABROOK FARMS plants 2,000,000 pounds of field tested seed each year.

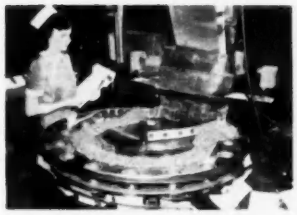


A large fleet of tractors is maintained for plowing, disking and cultivating operations on Seabrook Farms 19,000 acres.

Specially engineered equipment automatically harvests the crop—vines and all—and loads it into trucks. The produce is then hauled to field stations where the vegetables are removed from the vines.



Unloading part of the vast fleet of trucks used by Seabrook Farms to shuttle vegetables from the fields to the processing plant.



Seabrook Farms, gleaming, automatic machines fill cartons with washed and blanched lima beans.

PRICE CUTTING

(Continued from page 28)

Good packs of desirable varieties should seldom or never have to sell below cost-of-production plus a good margin of profit. If we can't make cost and a good profit on the better apples, heaven help us on the lower-grade fruit!

Starting Price

What is cost-of-production? And what are the returns-to-growers in recent years? What should the starting price be to induce sufficient consumption and to return the grower the most possible for his entire crop?

These questions can be answered intelligently. Other fruit and vegetable grower groups are doing it. The California Canning Peach Association has done it successfully for 16 years. It requires steady work by trained men.

Much data must be assembled—cost of production, carryover and size of the current crop and the same for competing crops, the demand, and other factors, all weighed carefully by experienced practical grower-marketers. It requires wholehearted organization and costs some thousands of dollars.

But if 25 cents per bushel can be added to grower returns from the nation's 112-million-bushel average crop, growers would get a needed $28 million more.

We would emphasize:

1) Vigorous movement early in the season is necessary.

2) Guesswork, panic-induced price-slashing benefits only one-third or less of the crop, and two-thirds is penalized.

3) The ideal way is to determine from available facts the starting price that will get the biggest possible portion of the crop sold for the largest possible return to growers when backed with adequate promotion. Only effective organization by and for growers can accomplish this—organization of all growers, especially eastern growers.

That's a large job. Let's be at it! How about starting now among your neighbor growers? THE END

Lowest-priced line in its field

LOWEST PRICED IN ITS FIELD!

This beautiful new Styleline De Luxe 2-Door Sedan lists for less than any comparable model in its field! (Continuation of standard equipment and trim illustrated is dependent on availability of material.)

. . . and see how the savings go on and on!

Lots of people find it hard to believe that Chevrolet—so big, smart and comfortable—is the lowest-priced line in its field.

Seeing how much pleasure and satisfaction it provides, you might naturally expect to pay more. Instead, at lowest cost, you get fine features that only Chevrolet in its field offers:

Wonderful new Centerpoise Power that "screens out" vibration; Royal-Tone Styling with its color-matched interiors; new softer, smoother Knee-Action ride—and plenty more.

Now consider this. *The money you save on purchase price is just the beginning!* People who know will tell you that you just can't beat a Chevrolet for keeping costs down. Gas economy is good. It's thrifty with oil. And Chevrolet is famous for low upkeep costs.

Talk it over with your Chevrolet dealer. . . . Chevrolet Division of General Motors, Detroit 2, Michigan.

Improved Airplane-Type Shock Absorbers Are Sealed for Life

The new, softer ride adds comfort, makes long trips seem shorter, eases strain on body and chassis. This finer ride control is *sealed for life* in sturdy airplane-type shock absorbers.

39-Year Proved Valve-in-Head Engine Design

Valve-in-Head is the modern trend for efficient, economical power. Chevrolet has built more valve-in-head engines than all other manufacturers combined. This experience pays off.

Extra-Large Brakes with Dubl-Life Rivetless Lining

Chevrolet's Jumbo-Drum brakes are extra large for greater stopping power with less pedal effort, less lining wear. Linings are bonded to brake shoes—no rivets. Lining life is practically *doubled*.

MORE PEOPLE BUY CHEVROLETS THAN ANY OTHER CAR!

CHEVROLET

The Only Fine Cars **PRICED SO LOW!**

Weed control—the poultry way

WITH a few simple arrangements, the grower of small fruits can let a sideline poultry business do a lot of his work in controlling weeds.

A number of Vermont berry growers let chickens run in their raspberry and blackberry patches during the summer. They find the birds help keep the grass and weeds under control, converting them into good available fertilizer. The chickens also save the growers considerable hoeing, cultivating, and hand weeding. Some growers also feel that poultry helps check insect damage.

As the fruit begins to ripen, the chickens are removed from the berry patch. Some growers put the birds back in the patch after harvest; others prefer to move them to another range for the remainder of the summer. They feel that the growth of grass and weeds toward the end of the season helps check late summer growth of the berry canes and thus helps to mature them properly before winter.

Due to the scratching habits of chickens, strawberry growers use poultry to best advantage by rotating their berry beds with their chicken yards. When pullets or broilers are used, movable range shelters make it handy to graze fields not convenient to the permanent poultry house.

Geese as Summer Helpers

More and more strawberry as well as other small-fruit growers are learning that geese also make good summer helpers. Though hard on grass and weeds, they rarely harm berry plants.

Strawberry growers keep the geese out of the patch while the fruit is ripening, to avoid contamination of the berries. Raspberry growers, however, report that they let the geese remain in with the planting all season. Even though the fruit often hangs within easy reach, the geese never touch it.

Currant growers, on the other hand, find that the birds like ripe berries and that they must be moved as soon as the fruit starts to color.

Geese are preferred over chickens by some raspberry growers because the geese do not scratch out the mulch used between the rows. Organic farmers also like the fact that geese do not disturb the earthworm population.

Poultry, properly managed, will pay its way and at the same time will save money and labor for small-fruit growers.—*Lewis Hill.*

Irrigation News

WEATHER: Made-to-order!

FROM ALUMINUM COMPANY OF AMERICA

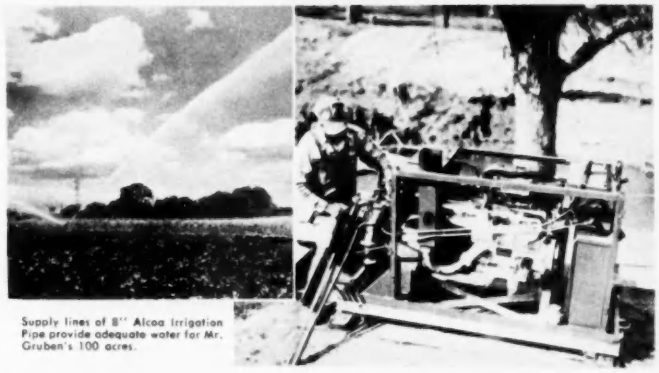
VOL. 3 NO. 2 FRUIT EDITION • APRIL, 1952

PORTABLE ALCOA SPRINKLER SYSTEM DOUBLES ALFALFA YIELD TRIPLES CORN YIELD

Waverly, Iowa—Merle F. Gruben, like so many farmers throughout the farm belt, was dissatisfied with the annual yield of his 100 acres. On the heels of a particularly poor year, it was decided that a portable irrigation system be installed in a desperate effort to "up the yield."

The results speak for themselves. The irrigated *Alfalfa* field produced twice the crop as did the unirrigated. By sprinkling a sandy field that previously supported no crop at all, Mr. Gruben was able to raise its yield to 40 bushels of *Oats* per acre. Irrigated *Corn* fields resulted in a crop of 80 bushels per acre against 15-25 bushels per acre for the unirrigated portions . . . and was done with *one* sprinkling.

Equipment to do this job consisted of five and six inch Alcoa Aluminum Irrigation Pipe for the laterals and eight inch Alcoa Irrigation Pipe for the supply lines. Three nozzles were placed on each lateral and the entire system was powered by an eight-cylinder, 125 horsepower engine which pumped 1,400 gallons per minute.



Supply lines of 8" Alcoa Irrigation Pipe provide adequate water for Mr. Gruben's 100 acres.

Sprinklings

"See It Now" with Edward R. Murrow brings the world to your armchair . . . CBS-TV every Sunday—3:30 PM, EST.

• • •

Mail coupon for your free copy of Alcoa's 32-page "Pipelines to Profit" book . . . full of useful facts on sprinkler irrigation.

• • •

Fruit growers save spraying time by using portable aluminum pipelines to deliver water to convenient orchard locations for preparing sprays.

• • •

For local help in planning your sprinkler irrigation system, contact your county agent, state agricultural college, or a reputable irrigation equipment supplier.

Oklahoma Farmer Irrigates . . . Gets Five Cuttings of Alfalfa

A farmer down in Kingfisher County, Oklahoma, got five cuttings of alfalfa in one season off land he had irrigated with his portable sprinkler system. Neighbors got only one cutting. "Those four extra cuttings," he says, "more than paid the cost of irrigation equipment. Once you've tried irrigation and have seen for yourself how it has multiplied your production, you'll be all-sold on extending it to other fields. Now I want to irrigate my entire 860 acres."

Since Alcoa Aluminum Pipe is so smooth inside, water flows through it with little resistance—requires less pumping power.

WHERE TO GET IRRIGATION ADVICE

To obtain sound advice on portable sprinkler irrigation, consult your county agent or a reputable irrigation equipment supplier. They have access to the latest information on equipment and methods. They know the experience of other farmers near you who have used sprinkler irrigation successfully.

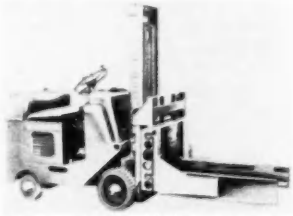
When you buy portable irrigation pipe, look for the blue and yellow Alcoa label.

NEW FOR YOU

New Fruit Sizer

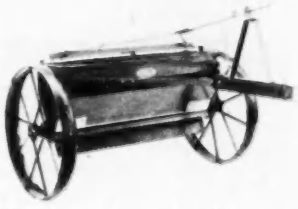
The Lobee fruit sizer, which was designed and produced by engineers with many years of actual field experience, incorporates many valuable improvements. The machine never needs oiling. It is built with a sturdy, one-piece, all-steel welded frame; and the sizing chains can be transferred in seconds. Close attention has been given to gentle handling of fruits and vegetables. Lobee sizers are made in widths from 12 inches to 36 inches, two-pack or three-pack, straight or angle, and pack from 50 to 300 bushels per hour. Write Lobee Machinery Co., Gasport, N. Y., today for full particulars.

Lift Profits



Not long ago the USDA issued a release listing the advantages of power lift trucks for greater economy in the costly operation of handling fruit from orchard to truck or storage. The new Towmotor lift truck is designed for the grower and has been extensively tested. The biggest problem to overcome in power handling is the initial cost of the pallets. The new Towmotor Hydraulic Fruit Box Clamp eliminates this problem. We urge you to write Towmotor Corp., 1226 East 152nd St., Cleveland 10, Ohio, for details.

Master Distributor



The new Master fertilizer spreader does a good job and costs considerably less than $100. Many growers in Michigan are using it and report success. The spreader is well built and is equipped

- **FRUIT SIZER**
- **WIGLE HOE**

with plates which can be easily adjusted for distributing material on any pattern. The tool can be used effectively to seed cover crops for the improvement of the orchard floor. Why not write Masters Planter Co., Masters Bldg., Benton Harbor, Mich., for details?

New Spray Boom

The Prescott spray boom increases by 50 per cent or more the average amount of work done compared with a hose outfit and cuts labor costs to as little as 22 per cent. It has been used successfully on peach, apple, orange, pecan, and walnut trees, and is designed to be used with pumps of 30 g.p.m. and larger. Distributor is the Prescott Garage and Manufacturing Co., 1222 29th St., Orlando, Fla., who will be glad to send details, prices, and specifications.

Wigle Hoe

The best way to tell you about the Wigle Hoe, which can be attached to any tractor, is to reproduce a letter from one of our readers who says:

"Just wanted to write and tell you how enthused I am over results this season with the Wigle Hoe. Not only have we saved its cost many times over this season, but we have had better crops as a result of using this machine. Without the Wigle Hoe attachment, our hand hoeing labor costs in strawberries have run between $18 and $20 per acre per season, whereas with the machine our costs are now between $5 and $6 per acre."

We suggest you write A. W. Schultz, Automotive Specialties Co., St. Joseph, Mich., for details.

How not to set out an orchard

Wherein junipers, rocks, and deer made a difficult time for Thomas Webb

THINGS aren't always turning out according to Hoyle. One plan that didn't turn out is the new 400-tree apple orchard set out by Thomas Webb of Bedford, Hillsboro County, New Hampshire, a little over a year ago.

First of all, Webb had his mind set on buying a certain knobby hilltop adjoining his 1,000-tree Webbcrest Orchards. True, it was covered with junipers. But he figured these would be a lot easier to remove than if it had been covered with birches which are tough to pull out as chains slip and the roots never seem to let go. Behind this juniper tangle was the high elevation and the perfect air drainage that would make a frost-free orchard.

Junipers and Rocks

First he found out it wasn't so easy to get rid of junipers. After trying practically everything, he discovered the simplest method was to scoop them out with a tractor and shovel. Ramming the shovel into the ground under a bush, he would lift it out and carry it over to the outskirts of his project for later burning.

After the brush came the rocks. Hundreds of boulders had been concealed from view by the junipers. A bulldozer pushed these aside, at additional expense. Finally, countless hours were put in by Webb and his hired man picking rocks by hand and dumping them off to one side. He now has a small mountain of these hand-picked boulders. This all added up to unforeseen expenses.

The land was finally cleared and ready for the trees. He set out 400 young McIntosh and Cortland to begin his frost-free orchard. The rows were spaced 40 feet apart with the trees 20 feet apart in the rows. Later, he plans to cut out every other tree in the row to give the remaining trees a 40 x 40-foot growing area.

Grass Mulching

Webb is a firm believer in mulching practices. On his new orchard he applied commercial 0-20-20, land lime, and hen manure to start a cover crop as rapidly as possible. The resulting hay crop was cut and used for mulching around the new trees. He claims this method helps retain the moisture and, later, organic matter as the hay rots.

After the trees were set out the deer came along to add to Webb's fruit growing troubles. They were not satisfied with one or two, but had to nibble the new growth from every one of his 400 trees. On some trees the bark was peeled off completely; on others, a tip or two were missing.

Fruit grower Thomas Webb examining a young apple tree in his mulched, frost-free orchard. Previous deer damage caused several new sprouts to grow from the top of each of the branches.

Webb claims he could collect from the state for deer damage to his fruit trees. But he says this plan does not work out too satisfactorily. For one reason, he would get only his original investment back and not the true value of the trees. Webb figures a growing tree is worth twice the amount of investment.

The way Webb sees it, he will not be able to get back his original investment for some years to come. He will have a frost-free orchard, but there is a limit to everything. He believes he might have made a go of the orchard if the deer had not appeared. But he suggests that fruit growers watch out for juniper-covered land as it might cost more than it is worth.—*Charles L. Stratton*

Now Fewer Sprays
CONTROL MITES and MANY INSECTS

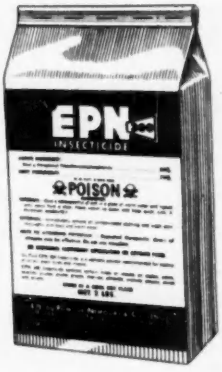
Use Du Pont EPN 300 INSECTICIDE

CLEAN UP THE MITES with prompt-acting EPN. Gives quick and long-lasting results against European red mite, Two-spot mite, Pacific, Willamette and Schoene mites and red spider. Has proven excellent on peaches, apples*, pears, plums, cherries, prunes, grapes and nuts. Promising also against certain citrus mites.

STOP THESE INSECT PESTS with EPN 300 and save money doing it. You can often combine mite control with destruction of Oriental fruit moth, plum curculio, peach tree borer and lesser peach tree borer, pear psylla, fruit tree leaf-roller, and grape berry moth. EPN also controls Lecanium scale and peach cottony scale crawlers and olive scale crawlers, as well as codling moth, and pecan nut casebearer.

YOU Get All These Advantages with EPN 300

- **This one product controls many pests on many fruit crops.**
- **Fewer sprays do the job . . . save labor, equipment, time.**
- **Quick-acting and long-lasting, residual control is excellent.**
- **Compatible with most spray chemicals.**



IDEAL FOR PEACHES, apples and other fruits, EPN 300 is formulated for fruit growers as a wettable powder for use as spray. EPN is now officially recommended in the major peach-growing areas for control of the most important peach insects. See your dealer for supplies, and ask him also for free booklets on EPN and other Du Pont pest control products. Or write Du Pont, Grasselli Chemicals Dept., Wilmington, Delaware.

*(Do not use on McIntosh type apples)

DU PONT CHEMICALS FOR THE FARM INCLUDE:

Fungicides: PARZATE® (Liquid and Dry), FERMATE,® ZERLATE,® Copper-A (Fixed Copper), SULFORON® and SULFORON®-X Wettable Sulfurs . . . *Insecticides:* DEENATE® DDT, MARLATE® Methoxychlor, LEXONE® Benzene Hexachloride, KRENITE® Dinitro Spray, EPN 300 Insecticide, Calcium Arsenate, Lead Arsenate . . . *Weed and Brush Killers:* AMMATE,® 2,4-D, TCA and 2,4,5-T . . . Also: Du Pont Cotton Dusts, Du Pont Spreader Sticker, PARMONE® Fruit Drop Inhibitor, and many others.

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On all chemicals always follow directions for application. Where warning or caution statements on use of the product are given, read them carefully.

DU PONT

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BETTER THINGS FOR BETTER LIVING
. . . THROUGH CHEMISTRY

STATE NEWS

(*Continued from page 16*)

Numerous blower attachments for high pressure sprayers have been sold in Michigan this past winter. Heavy pruning of large trees by lowering the height and thinning out thick branches has made the use of this type of mechanical sprayer practical.

George A. McManus, Jr., a graduating senior in Horticulture at Michigan State College, recently was awarded the Senior Plaque for attaining the highest scholastic average of the graduating seniors in the College of Agriculture. He was also the recipient of the Michigan State Horticultural Society award of $100, made annually at the Michigan State College achievement banquet to the outstanding senior in pomology. George is the son of Mr. and Mrs. George McManus, prominent in the cherry industry on Old Mission Peninsula in the Grand Traverse region.—*A. E. Mitchell, East Lansing.*

GEORGIA—Insufficient hours of cold will reduce the yield on varieties which have a high cold requirement in the South Georgia peach section. In the area around Fort Valley, Hiley and Southland have set good crops. Dixigem has such a heavy bud set that no reduction in yield is expected. Sullivan Elberta will have a crop except in some orchards where the bud set is light. There are some Dixired in the Fort Valley section but none 40 miles South. The yield of this variety has been reduced greatly by prolonged dormancy. Spartanburg, S. C., was in full bloom 11 days before Fort Valley, Ga.

In Middle and North Georgia peach sections, the crop is generally good with all varieties. Some orchards have a light bud set but with practically no reduction due to frosts it may well be sufficient. At this time (Apr. 14) the overall picture points to a good peach crop for Georgia.—*Earl F. Savage, Experiment.*

TENNESSEE—Peaches were in full bloom in Middle and West Tennessee March 24-28. A low of 27° was reported at several orchards on April 1. Elbertas have been injured but *crop* loss so far has not been serious. Apples are early pre-pink generally (Apr. 10) in West Tennessee (Jackson), with Red Delicious past full "pink," with two to three per cent of blossoms open.

Jesse Needham met tragic death at his Needham home near Greenfield on March 24. He was West Tennessee vice president of the State Horticultural Society.—*L. N. Pratt, Sec'y, Nashville.*

NEW HAMPSHIRE—Increase in the price of apples during late winter and early spring has made growers more optimistic about the apple business. The publicity given apples and the marketing of fruit in better condition no doubt helped to increase demand and prices.

Growers, however, realize the necessity of cutting labor costs in production and are shifting to labor saving equipment wherever possible. Several growers used compressed air pruners and were able to speed up their pruning operation. Air-blast spray machines which can be operated by one man, especially air-blast attachments for hydraulic machines, are replacing spray guns and nozzles. Removal of stone walls and cutting out trees which cannot be readily sprayed are also helping to streamline orchard operations.—*E. J. Rasmussen, Ext. Hort., Durham.*

DELAWARE—Some winterkilling of peach buds has occurred but there appears to be enough buds left for a crop.

"GATEWAY TO HEALTH"

A new motion picture film with the above title is the first production by the National Apple Institute to interest the public in the health qualities of apples. It seems that to sell anything nowadays one must not be modest about his product, and "Gateway to Health" should provide some help for apples which have been sorely neglected in the race to the consumer's stomach and pocketbook.

It is hoped first showing of the film will be possible during the annual NAI meeting to be held Jun. 11-14 in Yakima, Wash., at Hotel Chinook. Both the Washington State Apple Commission and the Washington State Horticultural Association will be hosts to this annual apple meeting.

At a recent meeting of the Delaware Apple Growers William H. Richter was elected president and F. W. Richardson, secretary-treasurer.—*Robert F. Stevens, Sec'y, Newark.*

PENNSYLVANIA—Erie County fruit growers are planning to entertain several thousand growers and their families from three states at a fruit growers' field day on June 21. Homemade laborsaving equipment and a complete line of the newest machinery for the grower will be demonstrated. Six adjoining vineyards and orchards along Route 20, one mile east of North East, will be visited as well as the Field Research Station of the Pennsylvania State College. The Erie County Horticultural Association is sponsoring the Field Day in co-operation with the Agricultural Service.—*H. J. Poorbaugh, County Agent, Erie.*

KANSAS—Our peach growers have just gone through a real scare when temperatures dropped to the mid 20's. Apparently the eastern section is safe (Apr. 11). The trees were only in the advanced pink stage. Fears are felt for the crop in the southern sections where the trees were in full bloom. If the bloom survives, the state seems set for a good peach crop.

The apple crop will be light generally as this is the "off" year for most orchards.

The weather is wet, the season generally backward, and labor seems scarcer than ever.

Alvin Baker, 81, orchardist of Iowa and Kansas, died April 8. For the last 45 years Mr. Baker had owned and operated the Sunny Side fruit farm near Baldwin and co-operated with the Kansas Experiment Station in the operation of the farm. Mr. Baker is given credit for planting the first fruit tree near Britt, Iowa.—*H. L. Drake, Sec'y, Bethel.*

OREGON—Riddell Lage, Hood River, was chairman of the state-wide horticulture committee which was one of 10 commodity groups taking part in the recent agricultural conference at Oregon State College.

Crop prospects: Clifford Cordy, Jackson County horticultural extension agent, Medford: Fruit trees wintered in good shape. Last year Bartlett pears were smaller than desirable due to the short water year; so trees have been pruned a little more severely. Bud set is lighter so we should end up with a somewhat smaller but considerably better quality crop.

Lee Foster, Hood River County horticultural extension agent, Hood River: Lack of farm labor for the coming year is the biggest problem facing orchardists in

this area. Since the 1951 crop was one-third to 50 per cent below normal, growers are looking forward to a large crop. It was a mild winter from the standpoint of tree injury.

Don Rasmussen, Marion County horticultural extension agent, Salem: Berries came through the winter in good shape. I expect, though, that yields will be cut in non-irrigated strawberry fields as an aftermath of the 1951 summer-long drought.—*R. G. Fowler, Jr., Information Specialist, Corvallis.*

IDAHO—The season is late and the bud set appears to be good.

Rosette is being corrected by zinc sulfate sprays. Most growers applied a dormant spray this year. The big question in April always is when will the blossoms come out. George Yost, Emmett, gives the following dates for full bloom of sweet cherries: 1947, April 23; 1948, April 22; 1949, April 17; 1950, April 21; and 1951, April 18.

Major Harry T. Lewis, Fruitland, is confined to his bed recovering from the effects of an automobile accident last winter. He is anxious to get out in his orchard of President Plums, prunes, and apples.

Nurserymen interested in budwood of Reine Red plum, a red sport of Green Gage, should contact Dr. Leif Verner, University of Idaho, Moscow. This red sport has a definite place in home orchards.—*Anton S. Horn, Sec'y, Boise.*

COLORADO—Prospects are excellent thus far (Apr. 10), with no winter killing apparent. A cold, early spring has retarded buds, consequently danger of frost is not so great.—*Don Marcue, Sec'y, Grand Junction.*

MONTANA—Apple and sour and sweet cherry prospects in the Bitter Root Valley and Flathead and Lake County areas are generally very good. At the present time (Apr. 9) fruit bud development of sweet and sour cherries is normal. The buds are just starting to swell. Sweet cherry production should exceed all years.

The International Apple Association has scheduled its 58th annual convention for August 4-6 at St. Louis, Mo. The sessions will be held in Hotel Jefferson. Those desiring exhibit space are advised to write IAA headquarters: 1302 18th St. N. W., Washington 6, D. C.

Practically all sweet cherries are produced in Flathead and Lake County district; nearly all sour cherries in the Bitter Root Valley district.—*R. O. Young, Sec'y, Missoula.*

UTAH—With the exception of apricots, fruit prospects to date are very good. In a few areas, principally the Brigham City section, apricots have been damaged although in most cases there are enough good buds for a full or nearly full crop. Apricots in the St. George area have been damaged by spring frost. They were in bloom March 19. The apple crop may be somewhat smaller due to the heavy crop in 1951.—*Gene H. Oberly, Sec'y, Logan.*

INDIANA—There are good prospects for a peach crop in the southern one-third of the state and Laporte County in northwestern Indiana. Fruit buds in the central and northeastern part of the state were killed this past winter by low temperatures.

Apple crop prospects look good at this time. Some old trees have been removed and many small, old orchards will be abandoned. There is very little planting being done to replace the old trees.

Strawberry acreage is down somewhat because of a late, cold, wet spring during planting time and a shortage of labor. This labor condition still exists, therefore an additional decrease in 1952 acreage can be expected.—*Ray Klackle, Sec'y, West Lafayette.*

WEST VIRGINIA—A summer meeting to be held jointly by the horticultural societies of the four Appalachian states—Virginia, West Virginia, Pennsylvania, and Maryland—is planned for July 24, with the West Virginia society as host. The session will center around Senator Byrd's Charles Town orchards and the Horticultural Experiment Station at Kearneysville, with tours to several nearby orchards.

CHERRY LEAF SPOT

(Continued from page 15)

for several successive seasons kill the trees.

The disease first becomes evident as small purplish spots that later turn brown. Individual spots are circular, but when infections are numerous the spots run together producing irregular-shaped areas. The under surface of the spots is soon covered with a mass of light pink spores.

Eventually the diseased areas drop out, giving the typical shot-hole effect. Infected leaves turn yellow and drop. The fruit stems are also attacked by the fungus and uneven ripening and dwarfing of the fruit may result.

Control. Since the fungus overwinters on fallen leaves, plowing the leaves under in early spring reduces the number of infections. Spraying the ground with one-half per cent dinitro solution likewise has recently been shown to be a helpful procedure. Complete control of the disease, however, can be achieved only by thoroughly spraying the leaves during the growing season.

At least four sprays should be applied: 1) As soon as the petals have fallen, 2) when about three-fourths of the shucks have dropped, 3) about two weeks later, and 4) immediately after the fruit has been picked.

Sour cherries except the English Morello and Wragg varieties may be sprayed with lime sulfur (diluted at the rate of three gallons to 100 gallons of water) or Bordeaux mixture (six pounds of copper sulfate and 10 pounds of hydrated lime to each 100 gallons of water).

These materials have been used for many years for the control of leaf spot. However, since lime sulfur is apt to discolor the cherries and Bordeaux may reduce their size, many growers now use materials such as the fixed coppers (copper oxychloride compounds), organic fungicides (ferbam, Phygon, Compound 341), or the less caustic forms of sulfur (flotation pastes, wettable sulfurs) to hold the disease in check with the minimum risk of injury.

Sweet cherries and the English Morello and Wragg varieties of sour cherries may be sprayed wtih lime sulfur (diluted at the rate of two gallons to 100 gallons of water), but less injury will result if lime sulfur is used in the first application only and wettable or flotation sulfur (six pounds to 100 gallons) in the three other applications. Bordeaux mixture and the fixed coppers should never be used on sweet cherries and the English Morello and Wragg varieties of sour cherries because of risk of severely injuring them.

The yellowing of the leaves and defoliation caused by the leaf spot fungus should not be confused on the Montmorency variety with the effects of sour cherry yellows, a virus disease which also causes the leaves to yellow and drop. Leaf fall from the virus disease usually occurs several weeks before any defoliation is caused by the cherry leaf spot fungus. The virus-infected leaves usually show few, if any, of the purple spots caused by the leaf spot fungus.—*John C. Dunegan, USDA.*

SAWDUST MULCH HOLDS MOISTURE

THESE two active members of a well-known fruit growing family have added strawberries and cultivated blueberries to their main line—90 acres of apple orchard near Putney, Vt. They are William Darrow, senior and junior. The father's brother is George M. Darrow, USDA's noted small-fruits specialist, located at Beltsville, Md.

Photograph shows how sawdust mulch retains moisture around a Jersey blueberry plant, in its fourth year after setting out as a two-year plant. As sawdust decomposes, the Darrows add more to keep mulch depth at around five inches. For nourishment, they add three handfuls of ammonium sulfate per bush in the spring—"small handfuls at first, larger ones as the bush gets bigger."—*Eleanor Gilman*

THE KEY TO SOIL FERTILITY

(Continued from page 12)

li by washing the salt into the drainage with irrigation water.

There is scarcely any important property of any type of soil that is not improved by humus for the nutrition of plants. In addition to improving the soil, humus materials stimulate root development.

Other values of humus include the stimulation of the important living organisms that are essential in all soils for freeing nutrients to the plant roots, for the production of growth-stimulating hormones, for fixing free nitrogen of the air, for other nitrogen changes that are included in the processes of ammonification and nitrification; in short for converting an inert mass of material into a living and functioning soil.

Nothing else, other than irrigation or drainage as needed, can improve soil moisture properties more than adequate humus renewal. Whether organic materials for making humus are incorporated into the soil or left on the surface as a mulch, there is improvement of the important soil properties. Nature drops organic materials on the surface of the soil and provides earthworms, bacteria, fungi, and other forms of life for incorporating the material into the deeper soil.

Any type of organic material, rightly used, is helpful, whether leaves of trees, lawn clippings, vines, stalks of plants, a green cover crop, compost, animal manure, or straw, or even sawdust can be used to improve the soil. Humus is about 40 per cent lignin and 30 per cent protein. Sawdust has the lignin (is mostly lignin and cellulose), but a nitrogen fertilizer must be used to enable the soil organisms to manufacture proteins to balance the lignin.

Some of the best orchardists grow a permanent (or near permanent) cover crop and return all leaves and prunings to enrich and improve the soil. This with water (by irrigation, if necessary) and fertilizer as needed, contributes much toward big yields and high quality of fruit. THE END

The USDA has approved a new organic insecticide called aldrin for use against soil insects which attack corn, peanuts, sugar beets, sugar cane, and small grains, it was announced recently. Aldrin's twin brother, dieldrin, has been approved for use against alfalfa weevils. Dieldrin has shown promising experimental results against plum curculio but has not yet been approved for commercial use by fruit growers.

NUT GROWERS NEWS

The Native Persimmon

AMONG the exhibits at the 43rd annual meeting of the Northern Nut Growers Association at Rockport, Ind., next August 25-27, we expect to have ripe fruits of several American persimmon varieties. This "nut by courtesy" is a fairly abundant native tree in the lower Ohio and Wabash valleys, where some varieties have been selected that do not wait for the traditional first frost as a signal to change their flavor from puckery to sweet. Indiana and Illinois between them have supplied about half of the currently cultivated varieties of *Diospyros virginiana*.

Some of the largest fruited varieties were found in Texas. Unfortunately, these are mainly too late in maturity for successful culture north of the Ohio River. The Killen, from Delaware, and the Garrettson, of Pennsylvania origin, regularly ripen their fruit at Urbana, Ill., and Geneva, N. Y., respectively. Nebraska is the name of a hardy variety coming from near the northwestern corner of this persimmon's native range.

Once it is successfully transplanted and its pollination provided for, I know of no fruit tree that will equal the persimmon in annual production of good clean fruit while requiring only minimum culture and almost no spraying.

Oriental Introductions

Several recent Oriental (*D. kaki*) introductions, while not as cold resistant as the American, have proved hardy enough to grow in the south half of Pennsylvania when grafted on American stocks. Fayette Etter of Lemasters, Pa., reports no frost damage in 12 years he has grown the Sheng, Peiping, and Great Wall varieties. These are good ones, he says, which bear fruit quickly.

He also has fruited the Kawakami (a Texas-grown seedling of the Illinois variety Josephine) on two trees, and has a young tree, not yet fruiting, of the sole Oriental variety surviving in the planting of the late Dr. G. A. Zimmerman at Linglestown, near Harrisburg.

The NNGA can supply a list of sources for trees and budwood of most of the persimmons named above, and will welcome information from readers on any other promising seedlings they have under observation.—*J. C. McDaniel, Sec'y, Northern Nut Growers Association, Inc., Hort. Field Lab., Urbana, Ill.*

Book Reviews

● **And Then We'll Be Rich** *($3.50) McGraw-Hill Book Co., Inc.*, by Clare Bell. From luxurious living in Long Island to a tumbledown orchard homestead in the Ozarks of Arkansas, with the wolf at the door, bespeaks of melodrama. And that is just what enlivens this real life story. It tugs at the heartstrings in every chapter, and is filled with hilarious episodes and colorful sketches of Ozark characters that refresh the spirit and the sense of humor.

The change was to be only temporary. Clare's husband, in the late depression years, had the idea of "A company which can pack Ozarks fruit as attractively as it's done on the West Coast." Nature interfered with wind and rainstorms. Her promoter husband took off on another scheme and Clare, with no knowledge of fruit growing, was forced to eke out a living on a mortgaged fruit farm with no money and two small, very hungry children.

Her difficulties came in dozens. Through blight and drought, tussles with unattached plumbing and roaming moonshiners, Clare manages to meet each new challenge with great good humor and pluck and succeeds in bringing the orchard back to health and her family back to happiness.

This is recommended reading for every fruit grower and every member of his family.

● **Plan for Independence** *($1.00) Harian Publications*, by Fred Tyler. Ninety-six pages of ideas for making a living in the country. The eight pages on roadside marketing are worth the price of the book.

● **Economic Botany** *($7.00) McGraw-Hill Book Co.*, by Albert F. Hill. Clear, concise discussion of the major useful plants of the world, their importance and use. Includes fruits, vegetables, and trees, and their products. 560 pages.

● **Entoma** *($2.00) American Association of Economic Entomologists*, George S. Langford, Editor. A 450-page handbook listing all sources for insecticides and fungicides. Excellent discussion of weed killers.

Orders for books on fruit growing and allied subjects may be sent to AMERICAN FRUIT GROWER, Willoughby, Ohio, with check or money order.

The Orchard Home

HIBISCUS lovers will be delighted to know that the flower Mrs. Walter Summers, of Laurel, Fla., holds with her right hand is one of the few Hibiscus ever developed that has a scented blossom. Mrs. Summers, long interested in developing new varieties of Hibiscus, expects to propagate more plants of the scented variety so that she can share her achievement with others. She has named this new semi-double hybrid, which has yellow blossoms with pink centers, "Mary Alice," for her daughter, as its first flower opened on her 17th birthday.

Mrs. Summers is no amateur at the delicate, painstaking, and exciting job of propagating. Her skilled hands have developed new varieties of various tropical and subtropical plants. Of greatest commercial importance is her work with the lychee (litchi), a small subtropical fruit which resembles an overgrown raspberry and has a sweet, pleasing flavor. It is a native of southern China. But more about the lychee in a coming issue when we will tell our readers about Lychee Orchards, Inc., which Mr. Summers manages and for whom Mrs. Summers is horticultural propagator.

THE WINNER!

If you were to ask 18-year-old Leah Jane Witmer of Boiling Springs, Pa., how to bake a perfect cherry pie, she would tell you that it takes at least three years of hard work, testing, and adjusting. Leah Jane knows, because she recently became the nation's champion cherry pie baker when she triumphed over entrants from every state in the country at the 20th annual national cherry pie baking contest held in Chicago.

The 48 state contestants were the winners of over 25,000 young girls who competed in town, county, and state contests from coast to coast.

Her mouth-watering, championship cherry pie recipe is as follows:

FILLING

3 cups red sour canned cherries, drained
1 cup sugar
¼ teaspoon salt
3 tablespoons cornstarch
½ cup cherry juice
1 tablespoon butter
4 drops red food coloring

(If frozen cherries are used, thaw cherries thoroughly and drain; reduce sugar to ⅔ cup.)

Place sugar, salt, cornstarch, and cherry juice into a saucepan. Stir. Cook until it begins to boil rapidly. Then add drained cherries carefully. Continue cooking gently until the desired thickness is reached. Remove from heat. Add butter and red food coloring. Cool.

CRUST

2 cups sifted flour
1 tablespoon sugar
1 teaspoon salt
¾ cup shortening
1 egg, separated
1 tablespoon lemon juice
¼ cup milk

Mix dry ingredients together. Add shortening and blend with a pastry blender. Mix egg yolk, lemon juice, and milk together by beating with a fork; stir this mixture into the dry ingredients to make a soft dough. Turn the dough onto a floured pastry cloth, and while you make the cherry filling, invert a bowl over the dough and allow to stand for 10 minutes. Then divide the dough in half. Roll one piece out and fit into pie pan. Brush this crust completely with egg white, add cooled cherry filling. Roll out pastry for the top, making air vents in the center. Place the pastry over the filled crust. Trim off any surplus pastry. Flute the edges to seal. Bake in hot oven at 450° F. for 10 minutes. Then reduce the temperature to 375° F. for 15 to 20 minutes.

THE CLASSIC DRESS

The classic dress owes its timeliness to simple, elegant lines, to the way it flatters the figure, to its adaptability to all occasions. Shown here is Advance Pattern 5737, with its V-neckline and soft shoulders, either cap or three-quarter sleeves, its gently eased skirt. For the spring and summer, make it in linen or cotton print; for the fall and winter, in a light wool or sheer rayon. Size 16½ takes 4 yards of 39-inch material. Sizes 14½ to 24½. Price 25 cents.

Send order and cash to Pattern Department, American Fruit Grower, Willoughby, Ohio. Be sure to specify size. Print name and address clearly.

YEAR-ROUND DELIGHT

Many apple desserts can be dressed up with a sauce and are in style any season.

APPLE HODGE-PODGE

4 medium-sized apples
Grated rind of one lemon
Cinnamon, nutmeg
3 tablespoons cream or milk
¾ cup sugar
1 cup walnuts
2 eggs, yolks and whites beaten separately
2 tablespoons flour

Peel, slice, and slightly cook apples on top of stove. Place in a buttered baking dish and add half the sugar, sprinkling with cinnamon, nutmeg, and lemon rind. Beat egg yolks until thick; add remainder of sugar, then fold in stiffly beaten whites. Add milk, flour, and chopped walnuts. Pour this mixture over apples and bake 30 minutes in a moderate oven. A crust will form on top. Serve with the following panocha sauce:

PANOCHA SAUCE

Cream ½ cup butter and gradually add 1 cup brown sugar. Place in a double boiler until mixture is melted. Slowly add ½ cup cream, stirring constantly to prevent curdling. Remove from fire and add 1 teaspoon vanilla. Serve warm or cold.—Mrs. E. J. Lundgren

OPPORTUNITY ADS

Only 25c a Word—CASH WITH ORDER. Count each initial and whole number as one word. ADDRESS AMERICAN FRUIT GROWER, 106 Euclid Ave., Willoughby, Ohio

BUSINESS OPPORTUNITIES

START VENETIAN BLIND LAUNDRY. PROFITABLE LIFETIME business. New Machine. Free booklet. Q. E. Co. 161 S. 44th, Philadelphia 3, Pa.

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CHAINS—TRACTOR, TRUCK, ROAD GRADER, BUS. Write for circular, give tire sizes—prompt shipment. HORNER TRACTOR SALES, Geneva, Ohio.

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CIDER AND WINE PRESSES, HAND AND HYDRAULIC new and rebuilt. Repairs and Supplies, Clarifiers and Filters, Bottling equipment. Write for supply catalogue. W. G. RUNKLES' MACHINERY CO., 185 Oakland St., Trenton, New Jersey.

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FOR SALE: 5000 NEW 1½ BU. APPLE CARTONS. 20c. Two 7½ ton Refrigerator Outfits, complete, ready to go. A-1 condition. Capacity 8000 bu. each. A real bargain, write for details. One FX Friend Sprayer 300 gal., on rubber $750.00. One FX Friend Sprayer 300 gal., on steel, $500.00. 250 new Steel Frozen Food Lockers, $5.00 each. FLAGG ORCHARDS, INC., Buena Vista, Ohio.

FOR SALE: 2 2 H.P. AEROMATIC COMPRESSOR, 1 only. Niagara Duster. RIESER FRUIT, Harpster, Ohio.

NIAGARA LIQUID DUSTER MOUNTED ON GOOD rubber, operated from tractor seat. Used less than 100 hours. Excellent condition. WITHERELL, Rochester, N.H.

NIAGARA LIQUID DUSTER LIKE NEW WITH GUARantee. $750.00. W. H. SHOFF, 321 South Washington, Peoria, Ill.

DUNCAN DOZER BLADES FOR CATERPILLAR, CLETRAC, Allis Chalmers, International tractors. Prompt shipment. $915.00 up. WAYNE WYANT, Factory Representative, 122 Sheridan Square, Pittsburgh 6, Pennsylvania.

COMPLETE ORCHARD EQUIPMENT BOUGHT & sold—some real specials. Buffalo Turbine Sprayer-Duster Combinations. 3 Models. Cider Press. 2 Crawler Tractors. Special on Buffalo Turbine—used less than half season. 12 h.p. water cooled Engine—on trailer $1150 delivered. New Sprayer Guarantee. If you wish to buy, sell or trade, give complete details in first letter. AGRICULTURAL & INDUSTRIAL SERVICES, (Cincinnati Pike, Batavia, Ohio. The Orchard Man's Exchange—All Equipment Guaranteed.

NIAGARA CHAIN APPLE SIZER. 36 INCH WIDTH WITH ¼ INCH SIZES 2 inch to 3⅝ inches up complete with brush and distributing systems. Extended packing tables from 42 inch distributing belt makes this suitable for wrapping or baskets. Together with utility sizer and motors. This makes complete packing house equipment. An excellent value. Interested parties communicate with P. O. Box 107, Winchester, Virginia for additional information.

FOR SALE—THE COMPLETE EQUIPMENT OF 500 acre Apple and Peach orchards. Two Mechanized Speed Sprayers, Friend Sprayer, Two Nozzle Sprayers on truck chassis, one Tresvutt cleaner, Rex Conveyor, One Apple Grader, lots of small equipment. ELLENDALE CORPORATION, Rehoboth Beach, Del.

NIAGARA CYCLONE DUSTER COMPLETE WITH ENGINE ON 4 wheel rubber tired wagon. Excellent condition, used less than 50 hours. Write P. O. Box 107, Winchester, Virginia.

MODEL 250 IRON AGE ORCHARD TWO WAY BLOWER MIST Sprayer used as demonstrator. KENNY MACHINERY CORP., 501 W. Maryland St., Indianapolis, Indiana.

SURPLUS ORCHARD EQUIPMENT—2 SKID TYPE Sprayers with 500 gallon tank, 55 gal. Bean Royal Pump, and Chrysler Industrial Power Units. Cletrac BDH Diesel Crawler tractors. Hydraulic cider press 48 x 48. Many other items. Write for list. TREXLER ORCHARDS, Orefield, Lehigh County, Pa., located on Route 309, 8 miles north of Allentown.

HELP WANTED

MAN THOROUGHLY FAMILIAR WITH VINEYARDS, who can work men and get results. State references, experience and salary expected. Good opportunity. TENNER BROTHERS, INC., P. O. Box 1765, Charlotte, N. C.

EXPERIENCED ORCHARD HELP TO WORK AS FOREMAN ON large Eastern Penna. orchard. Write stating qualifications and salary desired to Box 124, AMERICAN FRUIT GROWER, 106 Euclid Avenue, Willoughby, Ohio.

HORSE TRAINING

"HOW TO BREAK AND TRAIN HORSES"—A BOOK every farmer and horseman should have. It is free; no obligation. Simply address BERRY SCHOOL OF HORSEMANSHIP, Dept. 1382, Pleasant Hill, Ohio.

MISCELLANEOUS

MAKE MONEY ADDRESSING ENVELOPES. OUR instructions reveal how. PAUL GLENWAY, 5713 Euclid, Cleveland 3, Ohio.

BEAUTIFUL RAG RUGS, 27 x 54. MAILED ANYwhere for $1.25. Woven Handbags $1.49. "DRUMMONDS," Castalia, Ohio.

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43-ACRE ORCHARD . . . EQUIPPED 100-A'RE MICHigan Fruit Farm near town and Lake Michigan, excellent modern home! Gravel road, pick-up routes, mile Lake Michigan, 3 high school depot town; 35 alfalfa meadow, 20 in mostly wooded pasture watered by spring, orchard contains 1,375 cherry trees, 890 apples, 200 pears, 125 peaches, all in good condition; excellent 8-room electric-lighted home, modern bath, furnace, full basement, running water indoors, phone installed, good 40x40 barn, brooder house, combined garage and tool shed with full basement, pump house, electric-lighted 4-room tenant house, bath; money-maker available for $39,000 including tractor and orchard equipment, half down. Details with new FREE SUMMER catalog many states just off press. UNITED FARM AGENCY, 220-A5F South State Street, Chicago 4, Ill.

POULTRY

HELM'S IMPORTED DANISH BROWN LEGHORNS, BIGGER BODIED. Holder three World Records. Larger Eggs. Pullorum Clean. Leading Breeds. Certified Leghorns. Brooding Bulletins Free. ILLINOIS HATCHERY, Metropolis, Ill.

PHEASANTS FOR SALE. RINGNECK PHEASANTS. Breeders and eggs. Place your order now. HAUSMANN GAME FARM, 1305 EAST SLIGH AVENUE, Tampa, Florida.

CHINESE STARTED GEESE. READY FOR WEEDING, grazing Orchards. Small Fruits. Goose Booklet 10c. NORTHNODE FARM, West Rutland, Vermont.

GEESE WITH FRUIT KEEP DOWN WEEDS, GRASS, in orchards and berries; furnish valuable additional income. Safe shipment anywhere. Catalog, bulletins. PEYTON GOOSE HATCHERY, Duluth 82KN, Minnesota.

DOMESTIC RABBITS

FOR MEAT, FUR, MANURE, RAISE THE POPULAR Californian Rabbit; profitable. Circular. CLARK'S RABBITRY, Glen Allen, Virginia.

TRADE MARKS

NATIONAL TRADE MARK COMPANY, MUNSEY BUILDING, Washington, D.C.

TWINE

20 CARLOAD TREATED BALER TWINE, BINDER TWINE, ROPE. Quality guaranteed. Big discount to distributors, wholesalers, dealers, hardware jobbers, etc. BOB STONE, National Twine Distributors, Charlton, Iowa.

WANTED TO BUY

USED TRACTOR, SPRAYER, MOWER, CIDER CLARIFIER, in good condition for 10 acre orchard. Priced in line with apples. KLEMENTS, Hamersburg, Ohio.

WANTED: UNIMPROVED FARM. RATHER CHEAP. HERBERT AYER, R-1, Newtown, Ohio.

THINNING

(*Continued from page* 11)

on Golden Delicious and probably some double treatments on Winesap and Delicious. He thins his peaches by turning a high pressure water spray on the blossoms which knocks off the proper amount. "To us there is no way as satisfactory as the hydraulic or water pressure method," Auvil reports, "although it may only apply to early peaches, which is all we grow."

HANDY ANDY

Here is a trick which should help fruit growers provide cleaner spray water for their rigs. The spray rig refiller line attached to a drum, pictured above, will prevent less clogging of nozzles and can save wear and tear on the spray pump. It will eliminate the sediment which would otherwise be picked up and carried through the hose and into the pump. Many times the refiller is simply thrown into a pond, ditch, or stream.— *Fred R. Dreiling*

Edward Leadbeater of Contoocook, N. H., has used both dinitros and naphthaleneacetic acid for thinning with wide differences in results. This year he will use NAA at 20 p.p.m. on Baldwin and at 30 p.p.m. on Wealthy two weeks after petal fall. On an experimental basis he will use a dinitro on Wealthy at one quart per 100 at full bloom followed by NAA at 20 p.p.m. after two weeks. Although doing most of his spraying at 2X concentration, Leadbeater will apply the thinning sprays at single strength and will not combine them with regular pest control sprays.

In the Gravenstein section of California near Sebastopol, chemical thinning is still in the experimental stage, reports Jack Irby. More tests are being conducted this spring with both the dinitros and NAA. Irby says, "Thinning Gravensteins in a heavy crop year has always been necessary if size is to be expected. On trees that are heavily loaded, fruit is spaced to six inches or eight inches apart when the apples are three-fourths inch to one inch in diameter. Thinning by hand has been the popular method."

The pole method of thinning peaches is another time and labor-saver. The pole may vary in length up to 12 feet, and one grower makes a light, limber pole out of straight-grained cedar.

Grant Merrill of Red Bluff, Calif., uses poles to thin his peaches, varying the length of the pole for different varieties. "The less we thin, the longer pole we use," he explains.

On Elbertas, he generally uses a 12-foot pole since this variety tends to thin itself and sizes easily. Clusters are broken up and heavily laden limbs thinned out. With Elbertas, pole thinning seldom costs Merrill over $10 an acre.

On J. H. Hale, which must be thinned more heavily, Merrill will often use a two-foot pole and ladders. Where less thinning is necessary, he may use a four-foot pole and ladders.

Hand-Thins Redhavens

Merrill thins his Redhavens most of all. He prunes heavily and follows by thinning the blossoms by hand, leaving a certain number properly spaced on each tree. First he estimates how much fruit the tree should hold, based on past experience. For instance, this season Merrill figured about six Los Angeles lugs (20 pounds) per tree. Aiming for a count of 60 or 70 per lug means around 400 fruits per tree.

If blooming weather is good, with plenty of bees flying, Merrill figures that half the blossoms should set, so he left about 800 blossoms per tree. Then he actually hand-spaced and thinned the blossoms on each tree.

Merrill believes that blossom thinning is not expensive, costing only half to two-thirds as much as hand thinning. It is somewhat risky during a frosty year but if the weather looks favorable he will take a chance.

Top Market Prices

The blossom thinning is followed by pole thinning with a short stick. Thinning Redhavens costs Merrill a considerable amount of money, often over $100 an acre. However, these peaches, grown to perfection, bring top market prices.

Whether thinning costs $10 or $100 an acre, the experience of these growers indicates that thinning is a profitable orchard practice. In the long run, thinning will return its cost to you and a profit besides. THE END

American
FRUIT GROWER

RICHARD T. MEISTER, *Editor*
Associate Editor, H. B. TUKEY

America's Only "NATIONAL FRUIT MAGAZINE"

Marketing Agreements, Price Supports, and Government Control

WHEN we discuss marketing agreements, price supports, and government controls we must be careful not to lump all three together in the same parcel and to think of them as synonyms. To be sure, there are those who will argue —and with good effect—that the three are similar because all three mean more government in business. Yet there are others who will argue that the three are no more identical than are the immigration authority, old age pensions, and the interstate commerce commission.

All three of the latter involve government, but all three are quite different in function and jurisdiction. The immigration authority carries out the rules laid down by Congress. Certain quotas of immigrants are decreed by legislation passed by the elected representatives of "we, the people." The rules are our rules and our wishes and decrees. Old age pensions are also determined by vote of our representatives in Congress but they apply only to certain groups who are determined by us to merit old age benefits. The interstate commerce commission is set up by our representatives and deals with the flow of goods across state lines.

And so in a discussion of marketing agreements, price supports, and government controls, we must be sure to make it clear just what we are talking about.

Marketing agreements are in themselves neither price supports nor government controls. They are agreements entered into by producers and dealers and turned over to the government to enforce for them. They may be changed by the producers and dealers at will, as in the California pear deal of a year ago when hail damage in one pear section made quick change imperative.

On the other hand, price supports are used to underwrite or guarantee a price. Since the guaranteed price may bring overproduction, the next step may be control of the production. When this happens, government control enters the picture.

There are arguments pro and con on all of these issues. Most of us will agree that we want as little government and as little interference as possible. But there are some things that we, the people, can do better by working together rather than individually, like waging war, for instance, or stimulating atomic energy research. How far we should go, which way we should go, and in what manner we should go are the real questions. There is room for honest difference of opinion. In America we can speak freely, present our arguments, and decide for ourselves. For this the pages of AMERICAN FRUIT GROWER are always open.

Fruit Situation at a Glance

PRODUCTION

	Average 1940-49	1950	USDA Apr. 1, Est. 1952
	Thousand Boxes		
Oranges			
Calif., all	48,196	45,110	40,800
Navels & Misc.	18,273	14,610	13,800
Valencias	29,923	30,500	27,000
Florida, all	46,070	67,300	76,500
Early & Mid-season	25,050	36,800	42,500
Valencias	21,020	30,500	34,000
Other States	4,829	4,400	1,000
Total Early & Midseason	46,358	54,160	56,900
Total Valencias	52,738	62,650	61,500
Tangerines	3,890	4,800	4,500
Grapefruit			
Florida	27,280	33,200	36,000
Texas	17,387	7,500	200
Other States	6,186	5,880	4,200
Lemons	12,993	13,400	12,600

COLD STORAGE HOLDINGS

	Mar. 31, 1947-51 Average	Feb. 29, 1952	Mar. 31, 1952
	Thousand Bushels		
Apples, Fresh, Total	8,659	10,753	6,047
Pears, Fresh, Total	294	284	141
	Thousand Pounds		
Other Fresh Fruits	8,197	32,646	8,427
Dried & Evaporated Fruits	56,102	53,394	53,110
Canned Fruits & Vegetables	3,508	3,598	3,506
Frozen Fruits	247,283	267,022	235,999
Frozen Juices			
Orange Juice		147,568	185,171
Other Fruit Juices & Purees	36,503	56,511	53,744

Fruit Talk

"Varne View" Hythe, Kent, England, is the home overlooking the English Channel where **Sir Ronald G. Hatton,** formerly director of the East Malling Research Station, now lives. A very early and productive south-sloping garden "derelict until I took over keeps me busy and the house supplied."

Argentine studies show that grapevines in the Mendoza area transpire at an average rate of a gallon of water a day. Planted 2,000 vines to the acre, this is 400,000 gallons from each acre of vineyard for a growing season of 200 days!

A **Japanese** correspondent inquires about the possibility of using preharvest sprays for apples and pears. The artificial boundaries imposed by war are gradually melting away. In a single week letters were received from **Japan, China, India, Australia, South America, Egypt, France, Italy, Sweden, Canada, Scotland,** and **England.** Excellent scientific work is being reported from all parts of the world. Horticulture is global.

Iron deficiency in blueberry bushes in **Georgia** growing in soils testing pH 5.2 (usually considered not sufficiently acid for blueberries) has been corrected by using a powdered glass frit containing five per cent iron oxide mixed in the upper foot of soil.

Grape growers in **eastern U.S.** and **Canada** are getting together to talk over problems of mutual interest, such as new plantings, production, exports, and prices. This is an attempt to avoid such troubles as arose in 1951 when the Canadian crop was overestimated, large exports to the U.S. threatened domestic markets, and lower prices were received by both U.S. and Canadian growers, to their discomfort and dissatisfaction.

Estimated **citrus exports** from the **Mediterranean** countries (French North Africa, Spain, Italy, and Israel) for 1951-52 are estimated in the neighborhood of 70 million boxes—not far from Florida's total estimated crop of 73 million boxes for 1952. France, the United Kingdom, and Germany will take about two-thirds.

Hand picking is the limiting factor in fruit production. Inventors are apparently turning their attention to the problem. From Washington State comes an idea for a **picking chute** into which more than one picker can deposit his pickings without descending the ladder. From New York State comes a **vacuum picker.** All are in the trial stage but worth looking into and encouraging.

"Virus diseases and other disorders with viruslike symptoms of stone fruits in North America" is the lengthy title of Agriculture Handbook 10, USDA, available from the U. S. Government Printing Office, Washington, D. C., for $2.50—270 pages, many color illustrations; essential to every fruit library.

—H.B.T.

Coming Next Month

- Experiences with Sprinkler Irrigation
- Overcoming the Shortage of Labor
- Weeding Berries with Geese
- The Miracle of Plastic Pipe
- The Fruit Areas of America—British Columbia

New Ultra-modern Low-Friction truck engines give you

Gas Savings UP TO 14%

in New Ford Trucks for '52!

Advanced new LOW-FRICTION design LIBERATES POWER ordinarily held "captive" by engine friction! IT SAVES GAS! It saves wear!

Good news for farm truck owners! Now—for the first time—you can get new LOW-FRICTION design in a high-compression truck engine! Ford's ultra-modern LOW-FRICTION engines break away from traditional "European" long-stroke piston design. They introduce a friction-reducing short-stroke in three completely new engines in Ford Trucks for '52.

Ford LOW-FRICTION design is the greatest advancement in truck engine design since the V-8! It incorporates new direct-breathing OVERHEAD-VALVES for efficient fuel feeding. It gives you new HIGH-COMPRESSION for extra wallop to meet today's farm hauling needs. Here's truck engineering at its ultra-modern best, something your Ford Dealer will be proud to tell you more about today!

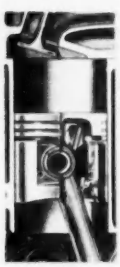
The new 101-hp. LOW-FRICTION Coast Clipper Six gives you more power per cubic inch . . . cuts friction horsepower 30%.

NEW LOW-FRICTION DESIGN

OVERHEAD-VALVES for deeper direct "breathing"!

HIGH-COMPRESSION . . . with regular gas!

SHORT-STROKE cuts piston travel up to 18%!



BIGGEST factor in reducing friction is Ford's new short-stroke. Add: *Autothermic pistons* with built-in clearance control, *Precision-molded Alloy Crankshaft* to cut friction and wear at journals, *New Full Flow Oil Filter* to screen every drop of oil every time around. Total: up to 30% cut in engine friction horsepower . . . more delivered *hauling power* . . . the big reason why Ford can promise gas savings up to 14%!

Two years of testing says they'll stand up!

Ford's new LOW-FRICTION engines are probably the best-proved truck engines ever introduced to the American public! Two years of testing on the 101-hp. engine alone! 50,000 dynamometer test hours! Over 500,000 vehicle test miles! You can bet your bottom dollar these new LOW-FRICTION engines will stand up in toughest farm service.

FROM PICKUPS TO 155-HP. BIG JOBS, Fords cover every farm hauling need. Five great truck engines—101-hp. to 155-hp. Choice of V-8 or Six. Three new LOW-FRICTION engines. Increased power in two famous workhorses—239-cu. in. V-8 and 254-cu. in. BIG SIX.

Availability of equipment, accessories and trim as illustrated, is dependent on material supply conditions.

FREE—Send this coupon today!

Ford Division of FORD MOTOR COMPANY
3298 Schaefer Rd., Dearborn, Mich.

Please send me without obligation, details on the new Ford Trucks for '52 and their five great engines!

FULL LINE ☐ HEAVY-DUTY MODELS ☐
LIGHT MODELS ☐ EXTRA HEAVY-DUTY MODELS ☐

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FORD TRUCKS for '52 cost still less to run!

SAFE · EFFECTIVE MITE CONTROL ON APPLES, PEACHES, PEARS

SHERWIN-WILLIAMS DIMITE®

CONTROLS EUROPEAN RED MITE, TWO-SPOTTED MITE, PACIFIC MITE, WILLAMETTE MITE, CLOVER MITE

what DIMITE is . . . Dimite is a water-miscible amber-colored solution consisting of 25% di (p-chlorophenyl) methyl carbinol, compatible with most commonly used insecticides and fungicides except those of an acid nature. *Dimite is not an organic phosphate compound.*

what DIMITE does . . . Dimite controls adult mites and nymphs at the time of application and *has outstanding residual effectiveness.* It is toxic to mites for several weeks after application. Though not ovicidal, its residual effectiveness outlasts the time required for mite eggs to hatch.

If mites were present on your trees last year, we recommend that you add Dimite to your first spray that contains DDT—then watch results. Dimite has longer residual value than most "miticides". DDT promotes mite infestation; therefore, head off the mites by adding Dimite to the DDT spray.

Read What Leading State Entomologists say . . .

"We tested Dimite on apples . . . in this test it gave better results against both two-spotted and European red mites than did any of the other materials tested. These sprays were applied in August, and in October the Dimite plot was the only one in which the trees still retained most of their leaves."

"Dimite was tested against European red mite on Red Delicious apples at the rate of one pint per 100 gallons of water. These applications were made with no injury . . . proved highly effective . . . per cent reduction was 97.8."

"I am enclosing forms with data from the three experiments with Dimite that we conducted this season. We consider this material as one of our best acaricides."

"Though several materials were studied, the most satisfactory in control, least dangerous to the operator, one which promises to have a much-to-be-desired residual effect, was Sherwin-Williams' Dimite. Only one application of this material when the mite population numbered 120 to 135 per leaf was sufficient to hold this pest in check for the season."

"We should like very much to continue our work with Dimite on apples. Last season it proved to be the most efficient insecticide used in our tests."

"One application gave almost complete clean-up of both species of orchard mites, and caused no injury to the apple fruit or foliage that we could see."

Obtain your spray material requirements from the Sherwin-Williams Insecticide dealer in your locality, or write to one of the addresses below.

SHERWIN-WILLIAMS
INSECTICIDE-FUNGICIDE DIVISION

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